# A Clinical Lecture

ON

# HYDATIDS OF THE PLEURA AND OMENTUM.

*Delivered at the Middlesex Hospital on Jan. 25th, 1895,*

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GENTLEMEN,—The recent concurrence in Hertford Ward of two unusual examples of hydatid disease suggested to me the subject of this lecture; but I had no sooner decided to speak of them than I felt serious misgivings as to whether such a topic would, after all, prove of much practical advantage to you. I adhered to my intention, however, when I came to consider that occasionally even the study of rare cases of disease may be turned to much profit, since it may enable us to put to the test the diagnostic criteria we are daily using. It is obvious that a rare case of localised thoracic or abdominal disease must exhibit in its history or its manifestations some departure from the ordinary course of better-known affections of the same part, even if it does not present any so-called pathognomonic signs; and although we may not be able, because we have never met with such a case before, to make an accurate diagnosis, yet we may have fixed in our minds the points in which it seems to depart from the common type. This is particularly well illustrated in the two cases I propose to speak of to-day. Both are rare cases; they are, I believe, the first of their kind which I myself have seen, and it is highly probable that you may pass your whole career without ever meeting one of them again. I cannot, therefore, describe them with any view of enabling you to be prepared to make a diagnosis should a similar experience happen to you, nor do I select them from the mere interest which everything that is novel necessarily has for us, but rather to test the value of certain physical signs which we are habitually seeking.

Amongst human parasitic diseases—a class that may be said now to include even the great groups of infective disorders—hydatids are responsible for a large mortality. Their distribution is spread more or less over the whole globe, but to a varying extent in different regions. In the British Islands hydatid disease is not a very common affection, whereas in Australia it is comparatively so common

*Table showing the Relative Proportion of Patients admitted into Hospital suffering from Hydatid Disease.**

| Place. | Total number of patients in hospital. | Number of cases of hydatid disease. | Proportion of hydatid disease per 1000 of all patients. |
|---|---|---|---|
| Middlesex Hospital (medical wards, 1867-1893) | 32,319 | 44 | 1·3 |
| London Hospital (medical wards, 1876-1881) | 13,297 | 24 | 1·7 |
| St. Bartholomew's Hospital (medical and surgical wards, 1860-1884) | 115,402 | 108 | 0·9 |
| St. Thomas's Hospital (medical and surgical wards, 1871-1881) | 34,569 | 44 | 1·2 |
| St. George's Hospital (medical and surgical wards, 1865-1879) | 45,599 | 22 | 0·5 |
| Breslau | 85,062 | 20 | 0·2 |
| Vienna | 360,713 | 38 | 0·1 |
| Iceland: Ofjord (by Finsen) | 596 | 16 | 28·5 |
| Australia—Victoria (8 hospitals) | 134,104 | 835 | 6·2 |
| ,, New South Wales | 35,760 | 103 | 2·8 |
| ,, Adelaide | 38,671 | 175 | 4·5 |
| New Zealand | 40,271 | 54 | 1·3 |

* The figures for the Middlesex Hospital are from the Medical Registrar's annual reports. The rest are extracted from Dr. Davies Thomas's work on Hydatid Disease.

that if a practitioner there meets with an anomalous thoracic affection—such, for instance, as the one I shall presently relate—it may occur to him, although it might never to us, that it belongs to this class of hydatid disease. In Iceland it is even more common than in Australia, some early writers on the diseases of that country actually estimated that at least one-seventh of the population of Iceland suffer from this parasite, but that statement has been called into question, and on more critical examination the proportion has been very sensibly reduced. However, you will see from the table, which Mr. Pugh has written out—extracted mainly from figures given in Dr. Davies Thomas's work on Hydatid Disease—that even with material from the most authentic sources the proportions vary very much in all parts of the world. These figures do not represent the total amount of hydatid disease met with in the places indicated, they only represent those persons who came under treatment (in hospitals mostly) suffering from this disease. They do not include those who have never exhibited symptoms of suffering from the disease, but in whom post-mortem observation has shown that hydatids exist. The figures referring to Middlesex Hospital are based on our Registrar's records for the twenty-six years, from 1867 to 1893, and show that of 32,319 persons admitted into the medical wards during this period only forty-four were suffering from signs of hydatid disease. But this proportion does not accurately represent the average incidence of hydatids in this community, for it must be familiar to you that now and again there are to be seen in the post-mortem room the relics of hydatid cysts in subjects who exhibited no signs of such infection during life, or, as happened lately in a case in Hertford Ward, the patient, having been formerly treated and cured of hydatid disease, may die in hospital from some totally different affection. The case I allude to was that of a man who died from stricture of the œsophagus, the malignant nature of which was held to be confirmed by the fact that he also had a very palpable, firm tumour of the liver. He had, however, passed his early life in Australia, and had many years ago been "tapped" there for hydatids of the liver. As the event proved, the tumour was, in fact, the shrivelled, semi-calcified remains of a hydatid cyst, whilst the œsophageal stricture was lacking in any obvious cancerous characters. Bearing such cases in mind, it might be nearer the truth to nearly double the above figures if the actual hydatid rate were to be estimated. The remaining statistics, collated from the exhaustive work by the late Dr. Davies Thomas of Adelaide, tend to show that in London 1 per 1000 of the classes admitted into hospital are treated for hydatid disease; that in some places—e.g., Breslau and Vienna—the proportion is much less; that in other parts of the world, as in Australia, it varies from twice to six times that figure, whereas in the practice of one Iceland practitioner the proportion was as high as 28 per 1000. It would be possible, by a comparison of the hospital reports which are now habitually published in all large towns, to draw up a more extended list, but the table before you will suffice to show the relative prevalence of the disease in London and other parts.

The hydatid finds its lodgment in various organs, and the gravity of the disease depends largely on its situation, as well as on the liability of the cyst to suppurate. I need not recapitulate at length what is known of the life-history of the echinococcus. In its adult form it is a small tapeworm (Tænia echinococcus) inhabiting the intestine of a dog, and its ova, shed from the proglottides, probably gain entrance into the human body through the alimentary canal. It is not difficult to conceive of the manner in which the liberated embryo from this tract finds its way into the liver or into other organs through the blood-channels—the two seats most commonly attacked being the liver and the lung. Dr. Thomas collected nearly 1900 cases of hydatid disease from various sources, and found that in about 60 per cent. the hydatid has its seat in the liver, and in about 12 per cent. in the lung, thus leaving a comparatively small percentage to be distributed among the other parts and organs of the body, amongst which are to be found examples in the cases I am now about to relate, the one belonging to the chest, the other to the abdomen.

CASE 1. *Hydatids of pleura simulating pyopneumothorax; paracentesis; drainage; recovery.*—The more interesting of the two cases is that of a lad fifteen years of age, who was admitted on Nov. 2nd, 1894, with a note from Dr. Travers-Smith of the Kilburn Dispensary, which he was attending, to the effect that he was suffering from pleural effusion and urgently required hospital treatment. It appears

that the boy had been attending at the dispensary since Oct. 15th. On his first attendance Dr. Smith noticed that there were unusual features about the case, and he was recommended to go to a neighbouring hospital. This advice was rejected for a time, and meanwhile the boy kept to his bed, but attended at the dispensary occasionally. The actual illness began rather acutely on Oct. 12th, when he was attacked with headache, pain in the side, and feverishness, with severe cough. It appears, however, from inquiry that he had been really ailing for some months prior to this, for since the preceding Christmas he had been complaining of a pain in his left side and had also frequently suffered from cough. His mother says he had always been delicate since he was five years of age, when he received a burn on the chest. So far as we could gather from both her and the boy, it did not seem that he had ever had any spitting of blood. Their statements to us do not, however, tally with those in Dr. Smith's notes, where "hæmoptysis" had been put down as a previous symptom. When admitted the lad was very thin and anæmic, suffering from a certain amount of fever, the temperature being nearly 101° F., and he complained of aching pain in the left side and of a troublesome cough, but was singularly free from any marked dyspnœa. On looking at his chest, which was covered by an enormous scar from the burn which he received when he was five years old, it was seen to be markedly bulged on the left side. In a cyrtometric tracing made at the time, taken just below the level of the nipple, the left side is seen to be bulged both in front and behind. Then the movements of the left side were much impaired, and on palpation vocal fremitus was rather excessive from the second rib to the nipple, but below that level it was abolished; on the right side movements and fremitus were normal. On percussion the pulmonary resonance was normal on the right side of the chest, save that on the level of the fourth rib, midway between the nipple and the sternum, there was an area of dulness, extending on each side obliquely downwards to merge in the hepatic area below. On the left side the percussion note was not fully resonant, being rather impaired beneath the clavicle, and more so under the second rib, whilst a markedly tympanitic note occurred in a somewhat quadrangular area, laterally from the sternum to the axilla, and reaching from the third rib above to the fifth below. Below that there was absolute dulness, which extended over the ribs to the costal arch, completely obliterating the area of gastric resonance, known as Traube's "semilunar space." The apex of the heart did not occupy its usual position. It was seen beating on the right side below the right nipple. On auscultation we heard sounds which required some consideration to explain. The right lung signs were practically normal—if anything, rather harsh and exaggerated. On the left side the breathing was low-pitched and rather blowing at the apex, distinctly amphoric in the third interspace and the upper part of the tympanitic area in the axilla, but suppressed below this. Posteriorly there was no marked difference, except absolute dulness over the whole of the left back and diminished fremitus, and diminished breathing sounds. Two sounds were absent which we expected to find present. Whenever you get a cavity containing air or gas, sound is transmitted readily, and if the air space is considerable there is reinforcement of the echo due to this cavity. The bell-sound elicited by striking together two coins on the wall of the sac and auscultating at a distance from them is a characteristic sign of a cavity containing air. We tried to elicit it here, but in no part could we get that characteristic ring or bell-sound. Another sign was unexpectedly absent: there was no succussion splash. Further, there could be felt a smooth rounded swelling projecting from beneath the left costal arch, which we inferred was the displaced spleen. The urine was normal and the abdominal organs were apparently natural. The diagnosis was somewhat difficult. We had to explain the presence of this tympanitic area in front, limited as it was, and its connexion with the dull area below. You may remember that the conclusion arrived at at the time was that we had to do with an anomalous case of empyema, possibly from ulceration of a small tuberculous focus in the lung with limited pneumothorax. The condition might thus be one of pyopneumothorax, limited anteriorly by pleuritic adhesions. But if this were the true explanation of the signs, it yet was most anomalous and unsatisfactory. In the first place this hardly explained the remarkable and extraordinary displacement of organs—the heart beating under the right nipple, the spleen displaced downwards and forwards; and, secondly, this extreme displacement of organs and bulging of the chest by a pyopneumothorax so limited in its gaseous contents that although the patient was lying on his back we did not have, as might be expected, tympanitic resonance over the whole front, but confined to an area above the fifth rib. The diagnosis of empyema did not seem satisfactorily to explain this singular fact, but as we were satisfied that the fever was probably due to the presence of pus there was no undue delay in making an exploration by means of an aspirator, with the result that about twelve ounces of dark-greenish inodorous pus, together with a considerable amount of gas, were withdrawn. The result was simply to increase the area of tympanitic resonance in front of the chest, with no change in the position of organs or any effect on the fever, so that it was quite obvious that there ought to be a free opening made, and on Nov. 6th Mr. Pearce Gould operated. He made an incision over the seventh rib, in the posterior axilla, excised a portion of the rib, and opened the chest, when there escaped a considerable amount of flaky, greenish-yellowy pus mingled with bubbles of gas and shreds of material which looked like inspissated lymph and pus. There seemed to be rather a large amount of this material, which did not apparently differ from that yielded by other cases of empyema of some standing. The operation was very successful, and the fever abated. The temperature fell to 99° and 98°, and for weeks afterwards maintained a normal range. The heart soon swung back to its normal position, the area of dulness to the right of the sternum disappeared, and gradually the left side of the chest-wall became retracted. These and other facts were recorded by the clinical clerk, Mr. Gittings, from time to time; but I will not weary you with their full recapitulation. Suffice it to say that in all respects there was very great improvement, and even the left lung seemed to be regaining its function. But there was one direction in which no further progress was made. As weeks went by and the sinus still remained patent, yielding daily from an ounce to two ounces of purulent discharge, it was clear that there must be something behind keeping up suppuration, or that the drainage was not as thorough as it should be. The local condition was not cured in spite of general improvement, and I therefore asked Mr. Gould to explore the sinus, either with a view of enlarging the outlet or of determining the cause of the continued suppuration. The exploration was carried out on Jan. 15th, and the result was the removal of a large quantity of shreds of translucent membrane, which on examination were found to be indubitably portions of the wall of hydatid cysts. Under the microscope, as you can see from the specimens on the table, this membrane presented the lamination characteristic of hydatid. To be sure, no scolices were to be found, but they are not always present. The extraction of these membranes and their identification threw a flood of light upon the whole case, whilst there can be no doubt that their removal has materially enhanced the prospect of the lad's complete recovery. The extent of the shrinkage of the chest, which has been in progress since the first operation, and is no doubt still going on, is seen when the cyrtometric tracing taken the other day is compared with that taken on his admission. Owing to the curvature of the spine, the contraction of the lung, and the recession of the sternum the antero-posterior diameter is actually lessened. It will further be seen that the left side of the chest is comparatively shrunken anteriorly. On percussion a tympanitic note, obviously due to the underlying stomach, has replaced the area of dulness which previously extended to the costal margin. The area of cardiac dulness is now almost normal and the heart can be felt beating below the left nipple. The percussion note is somewhat impaired from the nipple to the second interspace, but thence to the clavicle the note is even fuller than that on the right side. It may therefore be inferred that the left lung, which had been too long compressed to fully re-expand, has done so to a certain extent. As the lung has not expanded below, the diaphragm has risen, and the thoracic wall has fallen to the extent shown by the cyrtometric tracing. I may add that the spleen can no longer be felt, and its area of dulness is obscured by the stomach note.

Looking back now upon the history of the case, with the added knowledge so recently acquired, it may be asked whether the somewhat anomalous signs originally observed may be considered characteristic of hydatid disease of the lung or pleura? There are no distinctive signs of these conditions. Pulmonary hydatids may in their course and signs simulate phthisis, for cough and hæmoptysis are their usual

concomitants, and at a later period signs of excavation may be yielded by a suppurating cyst communicating with the bronchi. Or the existence of so formidable an affection of the lung may be first revealed by the development of signs of pleurisy, or of pneumothorax from rupture of the cyst into the pleura; or, more obviously, by its rupture into the bronchi, with expectoration of the membrane and scolices. A very remarkable case of pulmonary hydatid was made the subject of a clinical lecture by Sir W. H. (then Dr.) Broadbent some years ago.[1] In this case the right lung was occupied by an enormous cavity formed by a suppurating hydatid, which during life had yielded signs simulating those of pneumothorax. The patient had complained of pain in the chest for two months, but her fatal illness, which commenced abruptly, with a sense of "something giving way" in the chest after unusual effort, lasted less than three weeks. I cannot forbear quoting the lecturer's closing remarks in his commentary on this case. He said: "Was a diagnosis possible? and could we have done more for the patient had an accurate diagnosis been made? I will answer the latter question first. Had I known exactly the state of things I should certainly have ordered a free opening to be made into the cavity, and I am sure that we should have then have given the poor girl a better chance of recovery. In reply to the first I would say that a diagnosis, though difficult, was no doubt possible. I say so because I think that perhaps you or I might make out a similar case, were such a one to come before us. In order, however, to interpret the complex signs and symptoms offered by disease we must be prepared by personal experience or by acquaintance with the recorded experience of others; and until this case came under my care I did not possess the knowledge that hydatid disease could so nearly simulate pneumothorax." *Mutatis mutandis*, these words may well apply to the case we are now considering. A point of some importance is to determine whether in our patient the hydatid had its primary seat in the lung, the pleural complication being due to its rupture into that sac. We cannot speak with certainty on this matter, for, with the exception of the somewhat equivocal symptom of hæmoptysis, the history of our patient would be consistent with the rarer, primarily pleural affection. The fact that there were signs of limited pneumothorax does not, I think, militate against this latter view, and must be attributed to decomposition of the purulent contents of the hydatid, whose rupture coincided with the onset of the acute attack. In any case we have, happily, now good reason to believe that the patient has been freed from his disease and is practically cured, although with a permanently carnified lung.

Before finally leaving this question of diagnosis I should like to point out that the great displacement of the heart and spleen, and the other physical signs, seem to prove that the fluid was confined within a tense sac. Similar signs would have been yielded by a subphrenic abscess, but we had ocular proof that in this case the disease was above the diaphragm. Yet amongst the causes of subphrenic abscess, the majority of which are due to perforation of the stomach or intestine, one must not forget that hydatids take a share either in the more common case of hepatic hydatid or in that of hydatid connected with the spleen. The course of events, as now interpreted, was therefore probably as follows. At some time or other the boy became infected with the echinococcus, but whether directly from the one small dog which lived in the house, or indirectly from the consumption of uncooked vegetables—particularly that popular and wholesome article, watercress—it is, of course, impossible to say. Indeed, it is very rarely possible to trace the origin of any case, although there is ground for the belief that the greater prevalence of hydatids in Iceland, and perhaps also in Australia, is not remotely connected with the like (comparative) preponderance of the domestic dog. Ordinarily introduced through the stomach, the hydatid may find its final resting-place in any part of the body. It has been suggested that the larger proportion of pulmonary hydatids in Australia may be owing to the inhalation of the ova scattered in the dust in that wind-swept continent, but the hypothesis is not needed, for, once taken into the stomach, the liberated embryo may wander anywhere. In this case we believe that they found entrance into the left pleura, and, growing, compressed the lung, but not materially impairing health until the rupture of one cyst, or the suppuration of the mother cyst, excited the pleurisy and concomitant phenomena. That the correct diagnosis was not made on the occasion of the first incision is an instructive feature of the case; but it was owing simply to the fact that the material then escaping had none of the characteristics of hydatid membrane. Nor can we say even now that there is no hydatid in any other organ, for experience shows that a multiple distribution of these parasites is not uncommon, and that this is more likely to be the case when a region so rarely attacked alone, as is the pleura, is in question. According to Dr. J. D. Thomas the liver is the seat of hydatids in about 57 per cent. of all cases, the lung in about 12 per cent., and the pleura alone in only 1 per cent. It is curious that, whereas in Australia the proportion of pulmonary hydatids is above the average—namely, 16 per cent.—in Iceland it is considerably below it—namely, 2·7 per cent. (Finsen). In this country certainly hydatids of the lung are rare. Of the 44 cases in the Middlesex Hospital from 1867 to 1893, inclusive, there was only one in which the lung was primarily involved—i.e., 2·2 per cent. But 3 were peritoneal and the rest hepatic. This proportion of peritoneal cases is above the average estimated by Dr. J. D. Thomas, being over 6 per cent., instead of 1·3 per cent., which he gives. It has been raised still more in our own statistics by the recent occurrence of two (perhaps three) cases of omental and peritoneal hydatid, to one of which I will now briefly refer.

CASE 2. *Multiple hydatids of omentum; laparotomy; removal; recovery.*—The patient, a man forty-two years of age, was sent into the hospital by Dr. Mortimer of Horley on account of a painful swelling in the abdomen. He was admitted on Nov. 23rd, 1894, and stated that in the previous August he first began to suffer from abdominal pain, at first very severe. The pain was referred to the right side of the abdomen, in the iliac region. A liniment and a purgative were prescribed for him, and he resumed his work after four days. He remained free from pain until about three weeks before his admission, when it recurred in the same region, and on examination the swelling was discovered. He was a ruddy, robust-looking man, apparently in excellent health, his digestion being good, the bowels regular, and his only trouble being that connected with the swelling, which caused a manifest prominence in the right hypochondrium and adjacent part of the epigastric and umbilical regions. The tumour was smooth, ovoidal in shape, extending to the left as far as the middle line of the abdomen, to the right for five and a half inches from that point, above (in the recumbent position) nearly to the costal margin, and below to the umbilical level. The tumour, which when the abdominal muscles were contracted was proved to lie behind them, was mobile. As he lay in bed it clearly descended with the diaphragm in inspiration, and it could be moved from side to side for quite two inches. It was not difficult to place one's hand deeply between the upper margin of the tumour and the liver, especially when the patient was in the sitting posture, whilst on percussion there was not only resonance between the tumour and the costal arch, but over the greater part of the swelling itself. On the right the flank was also resonant. Manipulation did not elicit any tenderness, the pain complained of being of a dragging, aching character, referred to the right loin, especially when he was lying on the left side. Moreover, the tumour was only mobile towards the left; it could not be pushed towards the right loin. Its character was that of a tense, elastic body, possibly cystic. Various opinions were expressed as to the probable nature of the cyst. On the whole there was most concordance as to its being of renal origin, particularly as in the usual position of the kidney on the right side there was much less resistance on palpation than there was on the left. The late Mr. Hulke, however, whilst not discarding this view, thought it more likely that it was connected with the omentum, and credit must be given to Mr. Lock, who was then house surgeon to Mr. Hulke, for advancing the opinion that the case was one of hydatid cyst of the omentum. It is obvious that if it were renal—and its situation and mobility certainly did not accord with a cyst of the kidney, which still remained in place—the organ must have been dislocated, perhaps a movable kidney. Only in this way could its appearance in front of the colon be accounted for. The patient was transferred to the care of Mr. Gould, who performed laparotomy on Dec. 12th. Before the abdomen was opened, and when the patient was fully anæsthetised, the cyst could be freely moved in every direction, and Mr. Gould therefore concluded that it was a

[1] THE LANCET, Oct. 26th, 1878.

omental hydatid. So, indeed, it proved, and it was readily detached from the surrounding omentum. The cyst was about the size of an ostrich's egg, its wall being translucent and its contents clear. In addition, there were found three smaller cysts (omental hydatids are always multiple), one as large as a Tangerine orange, the others quite small. The liver was free from any cyst. The recovery of the patient was uninterrupted, and he left the hospital on Jan. 16th, 1895. We may hope that he has been entirely relieved of his unpleasant parasite, although it would be rash to assert this yet; for, in a serous sac like the peritoneum, when once a hydatid has gained entrance it may become disseminated to remote parts, and perhaps some day fresh trouble may arise from the appearance of a similar cyst, say in the recto-vesical pouch. At any rate there is this comfort that we have no evidence of hydatid in connexion with any of the solid abdominal viscera.

## ON PRESYSTOLIC APEX MURMUR WITHOUT MITRAL STENOSIS.[1]

BY ARTHUR G. PHEAR, M.D. CANTAB., M.R.C.P. LOND.

THE connexion of the mitral presystolic murmur with stenosis of the mitral orifice was first placed on a firm basis by Fauvel[2] in 1843, who gives an account of three cases in which the diagnosis thus made by the stethoscope was verified post mortem. He enters into the exact rhythm of the murmur with some care, describing it as a "bruit de râpe," commencing in the silence following the second sound and terminating at the instant the first sound is heard. Walshe[3] in 1851 was the first of British authors to draw attention to the murmur so significant of obstructive narrowing of the mitral orifice; he also was careful to define its rhythm with precision, describing it as post-diastolic or presystolic rather than exactly coincident with the diastole. Subsequently mitral constriction and its physical signs received special notice at the hands of Gairdner,[4] Hilton Fagge,[5] and others; and the view rapidly gained ground that not only did mitral constriction produce a presystolic apical murmur, but, further, that such a murmur was conclusive evidence of narrowing of the mitral orifice. For some years this sign was regarded as an almost infallible indication of organic mitral disease. Yet so early as 1862 two cases were published by Austin Flint[6] in which a mitral presystolic murmur had been heard during life, but in which the necropsies revealed no morbid change of the mitral orifices or valves. The same author described another case of similar nature in 1883,[7] and three years later in an article on "The Mitral Cardiac Murmurs"[8] he discussed the mechanism of the production of this anomalous murmur. Subsequently similar cases have been placed on record by Guitéras,[9] Osler,[10] Charlewood Turner,[11] Graham Steell,[12] Gairdner,[13] Maguire,[14] Lees,[15] and Sansom[16]—nineteen cases in all, in which the absence of mitral stenosis was ascertained by post-mortem examination. A feature common to sixteen of these was aortic regurgitation, and a close connexion has been held to exist between this condition and the presystolic murmur in question. More recently a number of cases has been collected by Theodore Fisher[17] in which presystolic or diastolic apical murmurs have been present in association, not with narrowing of the mitral orifice or with incompetence of the aortic valves, but with adherent pericardium. Two cases of like nature are recorded by Graham Steell.[18] In the Lumleian Lectures of 1894 the late Dr. Sturges has alluded to the frequency with which presystolic murmur is met with in children without the discovery of corresponding stenosis post mortem.

It is proposed in this paper to give an account of two further cases[19] of presystolic apex murmur without mitral constriction. In both the aortic valves were competent; in one the pericardium was adherent and in the other case this structure was healthy.

CASE 1.—A girl aged ten years and a half was admitted to University College Hospital complaining of severe headache and vomiting, probably of uræmic origin; these had been present in some degree for a year; no account could be obtained of any previous acute attack of nephritis; there was no history of scarlet fever or of rheumatic fever. The child was very anæmic, but not dropsical. From twenty to thirty ounces of pale urine were passed daily, containing a small quantity of albumin. The fundus of each eye showed extensive degenerative changes with hæmorrhages. It is noteworthy that the radial arteries even at this early age showed evidence of degeneration, the walls being thick and fibroid; the pulse was regular, but could be compressed without difficulty. The condition of the heart at the time of admission was as follows. The præcordial region was not bulged. An impulse was visible in the fourth and fifth left interspaces, its maximum point lying in the fifth interspace just to the outer side of the nipple line; the impulse was localised and of heaving character. The stethoscope revealed over this area a loud, low-pitched systolic murmur, obscuring the first sound and conducted outwards to the axilla; on this occasion no other apical murmur was heard; at the base a systolic murmur of hæmic origin was audible over the second left interspace; the second sound here was accentuated, but not reduplicated. A fortnight later a diastolic murmur had presented itself at the apex; this new murmur was of rough quality and of low pitch; its rhythm was not constant; at one time it immediately followed the second sound, and at another there was a short but definite interval between the second sound and the commencement of the murmur; occasionally it was presystolic, running up to and becoming merged in the systolic murmur; on one occasion it occupied the mid part of diastole, being separated by an interval from the second sound on the one hand and the systolic murmur on the other. During the child's residence in the hospital her condition gradually deteriorated. There was a steady diminution in the output of urine; obstinate vomiting set in, muscular twitchings appeared, and death ultimately ensued from uræmia.

*Necropsy.*—The heart was found to be hypertrophied, particularly the left ventricle, the walls of which were in places more than half an inch thick; the muscle was firm in consistence. The chordæ tendineæ attached to the mitral valve were both thickened and shortened; the curtains of the mitral valve showed no further deviation from the normal than a slight degree of thickening; the mitral orifice admitted two fingers; this in a child aged ten years cannot be regarded as a condition of narrowing. The aortic valves were healthy except for a little thickening at the attached margin of one of the cusps; they were perfectly competent. The tricuspid and pulmonary valves and orifices were normal, and the pericardium was healthy. The kidneys were very small and contracted, weighing together less than three ounces.

CASE 2.—A male patient was under observation on several occasions during a period of five years. His first illness of importance in the present connexion occurred at the age of thirteen in 1888, when he was admitted to University College Hospital for chorea. The attack was not a severe one and rapidly gave way to treatment. The heart at this time was normal. He had not long recovered from chorea when he fell a victim to rheumatic fever, of which there had previously been abundant manifestations among his family, although the boy himself hitherto had escaped. This attack kept him from work for more than two months and was almost immediately followed by a second outbreak of chorea. About a

[1] Read as a thesis at the University of Cambridge on May 29th, 1895.
[2] Archives Générales de Médecine, 4me série, tome i., 1843.
[3] A Practical Treatise on the Diseases of the Lungs and Heart, 1851.
[4] Edinburgh Medical Journal, 1861, vol. vii., p. 438.
[5] Guy's Hospital Reports, 1871, Series 3, vol. xvi., p. 247.
[6] Austin Flint: The American Journal of the Medical Sciences, July, 1862.
[7] Austin Flint: THE LANCET, Jan. 27th, 1883.
[8] Austin Flint: The American Journal of the Medical Sciences, 1886, vol. i., p. 27.
[9] Guiteras: Transactions of the Association of American Physicians, 1887, vol. ii., p. 37.
[10] Osler: Ibid., 1888, vol. iii., p. 138.
[11] Charlewood Turner: St. Thomas's Hospital Reports, New Series, 1886, vol. vii., p. 177.
[12] The Medical Chronicle (Manchester), vol. iv. (1886), p. 9; and vol. xi. (1889), p. 38.
[13] Gairdner: The American Journal of the Medical Sciences, 1889, vol. ii., p. 137.
[14] Maguire: The Medical Chronicle, 1890, vol. xii., p. 180.
[15] Lees: The American Journal of the Medical Sciences, 1890, vol. ii., p. 460.
[16] Sansom: The Diagnosis of Diseases of the Heart and Thoracic Aorta, 1892, p. 381.
[17] Brit. Med. Jour., April 28th, 1894; and Medical Press and Circular, Oct. 10th, 1894.
[18] Graham Steell: The Practitioner, April, 1894.
[19] For permission to give an account of these cases I am indebted to the kindness of Dr. Ringer and of Dr. Barlow.

year later he again came under observation, this time suffering from acute pericarditis. In addition to the signs of a moderate degree of pericardial effusion there was to be heard a to-and-fro friction sound, systolic and diastolic, of rough but superficial quality, the maximum intensity being at the base. There was also a rough systolic murmur at the apex, conducted to the axilla and round to the back, and presumably endocardial. Three weeks later he was convalescent. Friction was no longer audible; but the systolic apical murmur remained, and note also was taken of a systolic basic murmur, probably of hæmic nature. Some eighteen months after this he was again admitted to the hospital on account of severe pain in the region of the heart and shortness of breath. There was no fever, and the pulse—from 90 to 100 per minute—was regular and of fair tension. A diffuse undulatory impulse extended over the left intercostal spaces from the second to the sixth inclusive. In the fourth and higher spaces the chest wall could be seen to recede at the moment of systole. In addition to the systolic murmur, which presented the same features as before, there was to be heard at the apex and in its immediate vicinity a harsh presystolic murmur. The temporary benefit derived from treatment soon disappeared on the boy's departure from the hospital, and the progress of the case during the ensuing year and a half, though irregular, was on the whole one of progressive deterioration. On the occasion of his admission to the hospital for the last time in October, 1892, he was wasted and was suffering from bronchitis with slight hæmoptysis. Though the lungs were thus hampered there was no evidence of tricuspid regurgitation, the veins of the neck were not visibly pulsating, and dropsy had not made its appearance. The præcordial region was bulged. An impulse was visible over a wider area even than before, extending now for nearly an inch to the left of the left nipple line; the impulse was of heaving character and preceded by a *thrill*, of *presystolic rhythm*, confined to the region of the apex. No presystolic murmur, however, was to be heard on this occasion; that of systolic rhythm was as conspicuous as before. The disappearance of the presystolic murmur was only temporary; three weeks later it was again to be heard, and in addition a third murmur had made its appearance in the mitral region, of low pitch, rather rough quality, and occupying the early part of diastole. Occasionally the presystolic murmur was absent. The thrill also was variable, being at one time presystolic, at another time early diastolic, and occasionally absent. At the base the pulmonary second sound was accentuated; no murmur was audible. In the course of time signs of cardiac failure developed; the pulse became frequent and irregular; pulsation appeared at the epigastrium and in the veins of the neck; the legs became tense with dropsical fluid, which collected also in the peritoneal cavity; and the liver became enlarged and pulsatile and a slight degree of jaundice developed. The more urgent symptoms were, however, relieved by means of digitalis and by draining the fluid from the legs by incisions; the subcutaneous dropsy was in this manner reduced, and even for a time disappeared. The abdominal cavity remained, however, as tense as ever with ascitic fluid, which accumulated again and again in spite of repeated tappings; this was taken to indicate that permanent cirrhotic changes had developed in the liver—a conclusion which was justified subsequently. Throughout the later stages of the disease a distressing symptom was pain in the region of the heart, occurring in paroxysms especially at night-time. The termination of the case was abrupt, being due to syncope.

*Necropsy.*—There were extensive and firm adhesions of the pericardium, both to the heart and to the chest wall. Both sides of the heart were dilated, the left to a greater extent than the right; the left ventricle was hypertrophied. The mitral valve and the chordæ tendineæ were thickened and the curtains of the valve slightly adherent; the mitral orifice admitted three fingers with ease. The aortic valves were slightly thickened, but perfectly competent; a row of minute granular vegetations was present on the ventricular aspect of each cusp near its free border. The liver was small, its surface being roughened and capsule thickened; its substance was very tough, and there was evidently a marked excess of connective tissue.

It appears that a murmur may be audible over the mitral area which, though independent of mitral narrowing, resembles the murmur of that condition in that it may occupy the beginning, middle, or end of the diastolic period; it may be of early diastolic, mid-diastolic, or presystolic rhythm. The frequency with which aortic regurgitation is associated with this murmur renders it necessary to consider how far, in dealing with a murmur of mitral locality and of early diastolic rhythm, it is possible to exclude conduction from the aortic orifice as its cause. The difficulty is always great and is often insuperable. The presence or absence of a diastolic basal murmur affords but little help; if present it does no more than indicate that the aortic valves are incompetent; if absent, still the aortic valves may be diseased, producing a murmur audible only at the apex. The area of audibility of the aortic regurgitant murmur probably depends more on the amount[20] and strength of the reflux current than on any other factor; for it to be heard at the apex, not only must the valvular defect be considerable, but for the production of forcible recoil the initial strength of the heart beat must be great; so the heart is found hypertrophied and the pulse of characteristic "water-hammer" quality. As a rule, the apical diastolic murmur of mitral origin is accompanied by neither cardiac hypertrophy nor water-hammer pulse. The quality of the murmur, though of subsidiary importance, yet may afford help. That produced by aortic regurgitation is of high pitch, "whiffing" in quality, and becomes raised in pitch (or rather the lower-pitched of the elements of sound constituting the murmur become lost) as the stethoscope is shifted from the base in the direction of the ensiform cartilage or apex; the mitral diastolic murmur is of low pitch and comparatively harsh quality.

The murmur of presystolic rhythm stands on a different footing; this cannot anyhow be mistaken for a conducted aortic regurgitant murmur, contrasting as it does not only in quality but in rhythm. Various explanations have been offered of the manner of its production. It was suggested by Keyt[21] that the murmur, though preceding the first sound, was truly of systolic rhythm and generated at the aortic orifice. Charlewood Turner also supposes that the murmur, though apparently presystolic, in reality occupies the commencement of systole; he maintains that it is due to dilatation of the ventricle, a condition which allows regurgitation of blood through the mitral orifice, the reflux, however, being transient and confined to the commencement of systole, since, he argues, when a certain amount of contraction has been accomplished, the mitral curtains, previously unable to meet, become competent to close the orifice. This explanation depends on the view, first enunciated by Ormerod,[22] and later supported by Barclay[23] and Dickinson,[24] that all the so-called presystolic murmurs are in reality not presystolic at all, but systolic in rhythm, and are due to mitral regurgitation. Among many difficulties in the way of accepting this theory attention may be drawn to three: 1. The murmur commonly designated as presystolic is in many cases not of short duration, but prolonged, occupying, in fact, the greater part of the diastole, commencing soon after the second sound, and gradually increasing in loudness and roughness up to the first sound or systolic murmur. 2. If the so-called presystolic murmur is due to regurgitation, why should it be present in some cases of regurgitation and not in all? It is at the commencement of systole that the blood will regurgitate, if at all; and it is at the commencement of systole that the murmur should be of most constant occurrence. 3. A murmur produced from beginning to end by regurgitation should be conducted similarly throughout its length. This condition is not fulfilled by the so-called double mitral murmur; the early part of this, usually described as presystolic, is heard over a limited area, being conducted in most instances to a short distance only from its point of greatest intensity, although at this point it is loud and rough; the murmur commonly recognised as systolic is conducted well and in a characteristic direction. Maguire believes the murmur in question to be closely related to aortic regurgitation. He propounds an ingenious theory, which is based on the anatomical relations of the anterior flap of the mitral valve. This lies in close proximity, not only to the mitral, but also to the aortic, orifice. He suggests that this flap, hanging between two converging currents, both flowing into the ventricle, the one from the aorta and the other from the auricle, is thus caused to vibrate, the vibrations being

[20] The late Dr. Hilton Fagge in his article on Valvular Disease in Reynolds's System of Medicine (vol. iv., p. 645) has expressed his belief that the murmur of aortic regurgitation is propagated in the direction of the apex when the regurgitant stream is large, and that hence it is of particularly unfavourable prognosis.

[21] Boston Medical and Surgical Journal, July 12th, 1883.

[22] Medical Times and Gazette, 1864, vol. ii., p. 154.

[23] THE LANCET, March 2nd, 16th, and 23rd, 1872.

[24] THE LANCET, Oct. 1st and 8th, and Nov. 12th, 1887.

audible (as in the case of other mitral murmurs) at the apex. If the aortic regurgitant stream is copious, he says, there is produced an early diastolic murmur audible at the apex; in other cases the murmur is not produced until the auriculo-ventricular current is reinforced by the auricular contraction, which causes a vibration of the mitral flap of presystolic rhythm. An objection may be raised to this theory on the ground that the two currents are not both in action at the time when the presystolic murmur occurs; the aortic regurgitant flow has practically come to a standstill at the moment when the auricle contracts; under these conditions it seems hardly more probable that the auriculo-ventricular current should cause the mitral flap to vibrate than in normal circumstances. Again, given the simultaneous flow of the two currents, would not the valve hang passive between the two, supported on each side, rather than be thrown into vibration? If the valve were taut, and the current passing in the opposite direction so as to impinge on its free edge, doubtless vibrations would be set up, and a murmur, probably of musical quality, produced. The theory originally advocated by Flint presupposes as the immediate cause of the murmur what may be termed a "functional" narrowing of the aperture through which the blood passes from auricle to ventricle. He points out that in cases of aortic regurgitation the left ventricle rapidly fills with blood; the rapid inflow of blood, he suggests, floats the mitral valves away from the ventricular walls, so that they may actually be brought into coaptation before the commencement of the auricular contraction. With the auricular systole the valves, approximated as described, are thrown into vibration. An essential part of this, as of the theory propounded by Maguire, is aortic valvular disease, permitting regurgitation of blood. On either theory, then, the mitral presystolic murmur, though deprived of its former precise significance as a sign of diseased mitral valve, yet retains value as evidence of cardiac valvular defect. There have been described, however, by Osler, Graham Steell, Theodore Fisher, and in a previous part of this paper cases of presystolic murmur independent, not only of mitral stenosis, but of aortic regurgitation. Theodore Fisher draws attention to the frequent occurrence of adherent pericardium among these cases; he suggests that damage to the nerve-supply of the heart muscle may result from the antecedent pericarditis; hence loss of muscular tone and a condition favouring vibration of the muscular wall—vibration which may actually be set up by the blood propelled into the ventricle from a dilated and hypertrophied auricle.

Although so much attention has been directed to the presystolic apex murmur as occurring without mitral stenosis, the manner of production of this murmur remains obscure; the subject is, therefore, one worthy of further study. The size of the mitral orifice may be lessened by contraction of the fibrous ring to which the valves are attached, or by structural disease of the mitral valve, the segments of which may become thickened, shortened, and adherent, thereby leaving a much narrowed opening—it may be only a slit—for the passage of the blood. It seems possible also that the aperture between the curtains of the valve may become narrowed so as to obstruct the blood flow, independently of such gross organic changes, in a manner to be described. It is generally recognised that one function of the musculi papillares is, by their contraction, to draw together the flaps of the mitral valve and so aid in the closure of the mitral orifice. These structures (the papillary muscles) are disposed in the left ventricle in two groups, the one situated anteriorly and to the left, and the other posteriorly and to the right; from the former chordæ tendineæ pass to be attached to the free edge and ventricular surface of the anterior portions of both flaps of the mitral valve, the posterior parts of the valve being similarly connected by chordæ tendineæ with the posterior set of musculi papillares. The effect of this arrangement may be illustrated by a quotation from Foster's Physiology:[25] "From the disposition of the flaps of the valve and their relation to the papillary muscle, the chordæ tendineæ of a papillary muscle being attached to the edges of and spreading over the surfaces of two adjacent flaps, we may infer that when the papillary muscles contract, taking their share in the whole ventricular systole, they on the one hand bring at least the edges, if not part of the surfaces, of adjacent flaps into apposition, and on the other hand tend to pull down the whole of the valve, more or less in the form of a narrow funnel, into the cavity of the ventricle"—a condition of things almost identical, it will be noticed, with one of the varieties of mitral stenosis—valve edges in apposition, and the whole valve projecting in the form of a funnel into the cavity of the ventricle. By contraction of the papillary muscles, then, the valves are not only rendered tense, but are pulled downwards in such a way that their edges are brought into proximity, if not into apposition, and the mitral orifice, if not actually closed, is converted into a mere slit. Similar tension may be brought to bear on the valves by conditions other than contraction of the papillary muscles. Chordæ tendineæ are not infrequently seen in the post-mortem room presenting a thickened and contracted appearance. This is met with as one of the results of chronic endocarditis, accompanying more or less well-marked valvular disease. The condition is also seen, apart from any gross lesion of the mitral valve, under circumstances of strain such as is produced by the cardiac hypertrophy of Bright's disease or of aortic valvular disease. In such cases the mitral valves may present a normal appearance, or by slight thickening may show evidence of the strain to which they have been subjected; but the condition is not necessarily associated with the slightest degree of organic mitral stenosis. With shortened and thickened chordæ tendineæ the mitral valves are held permanently in the position which in the normal heart they are made to occupy rhythmically by the contraction of the musculi papillares; this practically amounts to a narrowing of the aperture through which the blood has to pass, and, given a fair auricular contraction, will be attended during life by a presystolic murmur, although post mortem it may be found possible to introduce as many fingers through the mitral orifice as in the normal heart. The first of the cases described above is an example of presystolic murmur without mitral stenosis proper, but with contracted chordæ tendineæ. Apart from the morbid change in the latter a similar condition of valvular tension may result from increase of the distance between the point of their origin and the line of insertion of the mitral valves. In the event of dilatation of the ventricular cavity the distance between any two points on the walls of the ventricle is increased. As the cavity gradually expands the two sets of musculi papillares from which the chordæ tendineæ spring are displaced away from the ring to which the mitral valve is attached, and at the same time become separated from each other. The downward displacement tends to put the valve on the stretch lengthways, and to draw the flaps together; the effect of the lateral movement is to produce tension along the line of the free edges of the valves. In this way the curve which is formed by the margin of each flap is straightened, and the aperture included by the flaps is elongated and narrowed. The manner of modification of the mitral orifice by displacement of the musculi papillares may be studied in the normal heart by detaching these structures from the heart wall and making slight traction with them in a downward and outward direction, away from the mitral orifice. It is submitted, therefore, that either of these two conditions—shortening of the chordæ tendineæ, or dilatation of the left ventricle—may produce a narrowing of the aperture through which the blood passes in its course from auricle to ventricle. A second factor, however, is necessary for the production of a presystolic murmur; this is the occurrence of an auricular contraction sufficiently forcible to generate a fluid vein. It is probably owing to failure in this respect that presystolic murmur is not a more common accompaniment of ventricular dilatation. The latter condition is frequently associated with dilated auricle; and dilatation of the auricle, unless combined with well-marked hypertrophy, means feeble auricular contraction—too feeble to provide the force requisite for the production of a murmur.

In conclusion I venture to suggest that many of the cases recorded of presystolic murmur without mitral stenosis, but with aortic regurgitation, may have been due to one or both of the conditions to which attention has been drawn above. In aortic insufficiency there is commonly some degree of ventricular dilatation; commonly, too, the chordæ tendineæ are thickened and retracted. Similarly, adherent pericardium is a condition of rarity apart from enlargement of the heart, the enlargement consisting of combined hypertrophy and dilatation in varying proportions. This may serve to explain the fact that, of the cases on record of presystolic murmur apart from narrowing of the mitral orifice, aortic incompetence has been present in so large a proportion, while in so many of the remainder adherent pericardium has been found.

[25] A Text-book of Physiology. 1893, Part I., p. 233.

The following is an abstract of previously recorded cases of presystolic apex murmur without mitral stenosis. The references will be found among the footnotes already given.

*A.—Cases in which Aortic Regurgitation was present.*

CASE 1.[6]—A male aged fifty-six in whom the impulse was strong, the apex beat being in the nipple line in the seventh left space. At the apex there was a presystolic "blubbering" murmur, and at the base a soft diastolic murmur conducted down the sternum. Post mortem the weight of the heart was 16 oz. There was hypertrophy of the left ventricle. There were a few vegetations on the mitral valve, but otherwise it was healthy. The aortic segments were sound, but insufficient from enlarged orifice.

CASE 2.[7]—Presystolic blubbering apex murmur; aortic direct and regurgitant murmurs. Post mortem the heart weighed 17½ oz. There was hypertrophy of the left ventricle; the mitral valve was healthy; the aortic valves were contracted and insufficient.

CASE 3.[8]—Presystolic and systolic apex murmurs; double aortic murmur. Post mortem the heart weighed 17½ oz.; the mitral valve was normal; the aortic valves were thick and contracted.

CASE 4.[11]—A male aged thirty-three. The impulse was diffused; the apex beat was in the nipple line, two inches below the nipple. There was an occasional presystolic thrill; a presystolic apex murmur occurred with every other beat, alternating with systolic murmur; there was a diastolic murmur after every beat, and a double basic murmur. Post mortem the heart weighed 20½ oz.; the mitral valves were much thickened, but competent, the girth of orifice being 4·79 in. The aortic valves were very incompetent and shallow.

CASE 5.[11]—A female aged thirty-two, with rheumatic history. There was a systolic apex murmur, at first by itself and later followed by soft diastolic murmur, almost continuous with the systolic, which commenced with presystolic character. Post mortem there was recent pericardial lymph; the heart weighed 20 oz.; both ventricles were enlarged; the mitral valves were thickened and incompetent, and the aortic valves were apparently incompetent.

CASE 6.[9]—There was a low-pitched, rumbling, presystolic murmur over the fourth, fifth, and sixth left interspaces, and also a double aortic murmur. Post mortem the heart weighed 21½ oz.; the mitral orifice admitted three fingers; the valve was opaque, slightly thickened, not adherent, and competent; the aortic valves were short and thickened.

CASE 7.[10]—A diastolic thrill was present in this case, and a loud, rough, presystolic apex murmur. Post mortem the mitral valve was normal, but the aortic valves were extremely incompetent.

CASE 8.[13]—A male aged twenty-four. At the apex there was a brief, rather indefinite, auriculo-systolic murmur; later it was rather more decidedly auriculo-systolic. Aortic regurgitation was not entertained. Post mortem the heart weighed 16 oz.; there was a half-inch perforation in the right aortic valve. (The mitral valve was not mentioned, being presumably healthy.)

CASE 9.[14]—A male aged forty, with rheumatic history. The apex beat was one inch and a half outside the nipple line in the sixth space. A faint systolic apex murmur was audible, there being later a rather blowing presystolic murmur, limited to an area within and above the apex beat; still later this murmur disappeared. At the base systolic and diastolic murmurs were heard. Post mortem the weight of the heart was 22 oz. All the cavities were dilated. The mitral orifice admitted three fingers, the anterior flap of the valve being slightly thickened, and the ventricular aspect roughened; the chordæ tendineæ were neither thick nor short. The aortic valves were incompetent, thick, and shrunken.

CASE 10.[14]—A male aged fifty-five. The apex beat was without the nipple line, in the fifth space. In the fourth right space there was a diastolic murmur, conducted to the ensiform cartilage. Just below the left nipple there was a short, blowing, presystolic murmur; this became rougher and less localised, and later disappeared. Post mortem the heart weighed 25½ oz.; all the cavities were dilated; the chordæ tendineæ were healthy. The mitral orifice admitted three fingers; the valves were healthy, except for an atheromatous patch. The aortic valves were incompetent and much shrunken. An aneurysm of the left coronary artery bulged into the left auricle, but was free from the mitral orifice and the cusps of the mitral valve.

CASE 11.[15]—A male aged twenty-one, with a history of chorea followed by rheumatic fever. Presystolic and systolic murmurs were heard at the apex; later the presystolic murmur occupied a large part of the diastole; still later it disappeared; afterwards it reappeared, and the systolic murmur vanished. There was a double aortic murmur. Post mortem the pericardium was found to be completely adherent. The heart was much enlarged, especially the left ventricle. The mitral orifice admitted three fingers, the valve being thickened, and there was some recent endocarditis. The aortic valves were thick; fresh vegetations with ulcerations were present.

CASE 12.[15]—A male aged thirty. The apex beat was displaced considerably downwards and outwards. There were apex murmurs, at times being systolic and diastolic, and at other times presystolic and systolic. At the base a loud, rough systolic murmur was heard; a short diastolic murmur was localised in the second right space. Post mortem the heart weighed 27½ oz. The mitral orifice admitted three fingers; the valve was normal. The aortic valves were fused into a calcareous mass; an opening was left of the size of a cedar pencil, which would have directed the stream towards the mitral valve.

CASE 13.[15]—A male aged thirty-one. The impulse was between the fifth and sixth spaces two inches without the nipple line. There were a presystolic rumbling apex murmur and systolic and diastolic basal murmurs. Post mortem the weight of the heart was 35 oz. All the cavities were dilated; the chordæ tendineæ were normal. The mitral orifice admitted five fingers; the valve was normal. The aortic valves were slightly thickened and incompetent.

CASE 14.[15]—A male aged forty-five. The impulse was feeble. There was a local presystolic apex murmur of cantering character, and a systolic murmur to the left of this. At the base there was a loud systolic murmur, and a soft diastolic with maximum at the fourth left space. Post mortem the weight of the heart was 19 oz. The mitral orifice admitted four fingers; the anterior flap and the chordæ tendineæ were thick, but not shrunken; the posterior flap was slightly thickened. The aortic valves were much diseased and quite incompetent.

CASE 15.[16]—A male aged thirty. A well-marked presystolic thrill was present. There was a murmur over most part of diastole at apex, (?) ceasing for a very brief period before the first sound; also simulated reduplication of second sound. Post mortem there was no stenosis whatever of the mitral valves. The aortic valves were incompetent.

CASE 16.[26]—A male aged thirty-two. There was an apex beat in the nipple line in the fifth space. There was a presystolic thrill. At the apex there was a presystolic "rolling" murmur localised to the area of impulse; between this and the sternum there was a systolic murmur. At the base there was a diastolic murmur to the left of the sternum; behind the sternum there was a loud half-squeaking, half-musical murmur. Post mortem the pericardium was found to be healthy. The weight of the heart was 22½ oz. The left ventricle was hypertrophied. The mitral orifice measured 4 in.; the valve was healthy. The aortic valves were slightly thickened, the right posterior cusp was retroverted, and there was thickening of the endocardium over the septum where the regurgitant stream had impinged.

CASE 17.[26]—A male aged forty-five. The apex beat was in the fifth space three inches without the nipple line. There were a presystolic thrill and a harsh presystolic apex murmur. There was also a to-and-fro basal murmur. Post mortem the mitral orifice measured 4½ in.; the valve was normal. The aortic valves were not diseased, but incompetent from dilatation of the aorta. There was a thickened patch on the septum.

*B.—Cases in which the Pericardium was entirely or partially Adherent.*

CASE 18.[18]—A female aged nineteen. There was a history of rheumatic fever. There were a diastolic thrill, systolic and diastolic apical murmurs, with doubled second sound. There was also a systolic aortic murmur. The pulmonary second sound was accentuated. Post mortem the pericardium was found to be generally adherent. There was dilatation of all the cavities. The chordæ tendineæ were hard and short. The mitral orifice admitted four fingers, the valve was thickened, and there were vegetations on the auricular surface. The aortic valves were competent.

CASE 19.[18]—A male aged twenty-three. There was a

[26] Theodore Fisher: THE LANCET, March 9th, 1895.

diastolic thrill. At the apex there were a systolic murmur, doubled second sound, and a short diastolic murmur. At the base there were a systolic murmur and reduplicated second sound. Post mortem the pericardial cavity was found to be obliterated. The weight of the heart was 22 oz. There was great dilatation of the mitral orifice; the valve was thickened and indurated. The aortic valves were slightly thickened, but apparently competent.

CASE 20.[27]—A female aged twelve. At the apex there were a loud systolic murmur and a rumbling diastolic sound. Post mortem the pericardium was found to be adherent. The weight of the heart was 23 oz. There were hypertrophy and dilatation. The mitral orifice was dilated and the valve slightly thickened. The aortic valves were competent.

CASE 21.[27]—A male aged ten. There was a thrill (? rhythm). At the apex there was a systolic murmur, and after it a sound, probably a diastolic bruit. Post mortem the pericardium was found to be adherent. The weight of the heart was 10 oz. There were hypertrophy and dilatation. The aortic and mitral valves were healthy, except for bead-like granulations.

CASE 22.[27]—A male aged thirteen. At the apex there were a systolic and rumbling presystolic murmur. Post mortem the pericardium was found to be adherent. The heart weighed 22 oz. There were hypertrophy and dilatation. The mitral orifice was dilated. The valves were healthy.

CASE 23.[27]—A male aged twelve. There was a systolic thrill. At the apex was a systolic murmur, and later a diastolic murmur. Post mortem the pericardium was found to be adherent. The heart weighed 13 oz. There were hypertrophy and dilatation. The mitral orifice was enlarged. The valves were normal.

CASE 24.[27]—A female aged eleven. There were a systolic thrill and systolic and diastolic apical murmurs. Post mortem the pericardium was found to be adherent. The weight of the heart was 17 oz. There were hypertrophy and dilatation. The mitral orifice was dilated and the valves were thickened. The aortic valves were normal.

CASE 25.[27]—A male aged thirteen. At the apex was a systolic murmur, preceded by a rumble. Post mortem universal pericardial adhesions were found. The heart was greatly enlarged. The mitral orifice admitted five fingers.

CASE 26.[28]—A female aged eleven. There were a presystolic apical thrill, systolic apex murmur, and also a rumbling long diastolic murmur. Post mortem the pericardium was found to be universally adherent. The weight of the heart was 17 oz. The mitral orifice measured 4 in.; the valve was thickened. There were small granulations on the mitral and aortic valves.

CASE 27.[28]—A female aged seventeen. There was an apex thrill, now presystolic, now systolic. There were apical systolic and diastolic murmurs. Post mortem the pericardium was found to be adherent over the front of the left ventricle. There was great dilatation. The mitral orifice measured from 3¾ to 4 in.; the valve was thickened. The aortic valves were healthy.

CASE 28.[28]—A male aged fourteen. There were a systolic apical thrill and mitral systolic and mid-diastolic murmurs; at another time there was a localised presystolic murmur. Post mortem general adhesion of the pericardium was found. The heart weighed 21½ oz. The mitral orifice measured 4⅛ in.; the valves were thick, but not shrunken. The aortic valves were slightly thickened, but not contracted.

CASE 29.[28]—A male aged nine. There were a mitral diastolic thrill, mitral systolic murmur, and a diastolic "rumbling" sound; there was no presystolic murmur. Post mortem universal pericardial adhesions were found. The heart weighed 10 oz. There were bead-like granulations on the valves, otherwise they were healthy.

CASE 30.[28]—A male aged nine. There were a systolic apex murmur and a short "roaring" diastolic sound. Post mortem the pericardium was found to be universally adherent. The weight of the heart was 10¼ oz. The mitral orifice measured 4½ in.; the valves were thick, but slightly shrunken, and fringed with small granulations. The aortic valves were healthy.

CASE 31.[28]—A male aged ten. There were a harsh systolic apex murmur and a long, rumbling, diastolic murmur heard over a wide area. Post mortem the pericardium was found to be universally adherent. The heart weighed 9 oz. The mitral orifice was capacious. There were recent vegetations on the valves.

CASE 32.[28]—A male aged thirteen. There were a systolic apex murmur and a rumbling presystolic murmur localised to the area of impulse. Post mortem universal adhesions of the pericardium were found. The weight of the heart was 22 oz. The mitral orifice took three fingers easily; the valves were healthy.

CASE 33.[28]—A male aged twelve. There was a systolic apex murmur. At different times a rumbling sound followed the second sound, and there were mid-diastolic and presystolic murmurs at the apex. Post mortem the pericardium was found to be universally adherent. The heart weighed 13½ oz. The mitral orifice was enlarged; the valves were scarcely thickened. The aortic valves were normal.

CASE 34.[28]—A female aged thirteen. There were presystolic and systolic apex murmurs. Post mortem the pericardium was found to be universally adherent. The weight of the heart was 10½ oz. There was no stenosis of the mitral orifice, but slight thickening and shrinking of the valves. There was a fringe of small granulations. The aortic valves were normal.

CASE 35.[28]—A female aged fourteen with systolic apical murmur, rumbling diastolic sound, and double squeaky pericardial rub. Post mortem recent adhesions of the pericardium to the front of both ventricles were found. The weight of the heart was 13½ oz. The left auricle was dilated and hypertrophied. The mitral orifice took three fingers; the valves were thickened. Small granulations were present on the mitral and aortic valves.

CASE 36.[29]—A male aged eighteen with a history of chorea and afterwards of rheumatic fever. The patient had a mitral systolic murmur, and later a variable diastolic murmur, now early diastolic, now presystolic, and at times absent; it was associated with a thrill. Post mortem the pericardium was adherent to the heart and chest wall. There was dilatation of both sides of the heart, especially of the left. The mitral orifice admitted three fingers; the valve was slightly thickened. The chordæ tendineæ were thickened, but not shortened. The aortic valves were competent; on them were small vegetations.

### *C.—Cases in which there was neither Aortic Regurgitation nor Pericardial Adhesions.*

CASE 37.[11]—A male aged thirty-six in whom the apex beat was 2 in. on the outer side of the nipple line. At the apex there were systolic and long diastolic murmurs; with stronger beats there was a rough presystolic murmur, followed by a flapping first sound, but no systolic murmur. At the base there were an indistinct systolic and a diastolic murmur. Post mortem both ventricles were dilated and hypertrophied. The mitral orifice took three fingers; the valves were competent; the margins were thick and rough. The aortic valves were thickened, but showed no patency.

CASE 38.[11]—A female aged thirty-five with a history of rheumatism. There were a systolic thrill and a systolic apex murmur; later a presystolic murmur appeared, and the systolic disappeared. Post mortem the heart was somewhat enlarged symmetrically. The mitral orifice measured 4⅓ in. The mitral and aortic valves were normal.

CASE 39.[10]—A child with a presystolic mitral murmur. The heart was pushed upwards by an enormous spleen. Post mortem the mitral valve and orifice were found to be normal.

CASE 40.[27]—A male aged eight. There were a systolic thrill and a systolic apex murmur, and in addition a low-pitched systolic and diastolic rumble. Post mortem the weight of the heart was 10 oz. The mitral orifice measured 3¾ in.; the valves were thick and contracted. The aortic valves were thick, but competent.

CASE 41.[28]—A male aged forty-six with a presystolic apex bruit. Post mortem the heart weighed 21 oz. The mitral orifice took three fingers; the valve was thickened. The kidneys were healthy.

CASE 42.[28]—A male aged eight with a systolic thrill. At the apex a hard, harsh, blowing systolic murmur was heard, and also a long rumbling sound, systolic and diastolic. Post mortem the weight of the heart was 10 oz. The mitral orifice measured 3¾ in.; the valve was thickened and somewhat shrunken. The aortic valves were thick, but not shrunken. The left auricle was dilated and hypertrophied.

CASE 43.[26]—A male aged forty-seven in whom a presystolic apex murmur was audible. Post mortem the mitral orifice

[27] Theodore Fisher; Brit. Med. Jour., April 28th, 1894.
[28] Theodore Fisher: Medical Press and Circular, Oct. 10th, 1894.
[29] This paper.

admitted four fingers. The aortic valves were adherent, but considered competent.

CASE 44.[28]—A female aged twenty. There were a presystolic thrill and presystolic and systolic apex murmurs; later a diastolic murmur replaced the presystolic. Post mortem the weight of the heart was 18 oz. The mitral orifice measured 3¼ in. The aortic valves were healthy. There were hypertrophy of the right ventricle and atheroma of the pulmonary artery.

CASE 45.[29]—A child aged eight. At the apex there were systolic and long, loud, diastolic murmurs. Post mortem the mitral orifice measured fully 3 in.; there were a few small granulations on the auricular surface of the valve.

CASE 46.[29]—A female aged eleven. There was an apical systolic murmur, and later a diastolic in addition, its place in the diastole varying, being now early diastolic, now mid-diastolic, and now presystolic. Post mortem hypertrophy of the left ventricle was found. The mitral orifice admitted two fingers; the valve was slightly thickened. The chordæ tendineæ were short and thickened. The aortic valves were normal. The kidneys were small and granular.

In 17 of these 46 cases the aortic valves were incompetent; in 20 the pericardium was adherent. In 12 cases presystolic or diastolic thrill was present; this cannot, therefore, be so certain a sign of mitral stenosis as has been supposed. The condition of the chordæ tendineæ is mentioned in seven cases only; in three of these they are recorded as healthy; in two they were thickened, but not short; and in two they were found to be shortened.

Gower-street, W.C.

## NOTES ON A RECENT DEATH FROM LIGHTNING-STROKE AT SHOEBURYNESS, ESSEX.

BY DAVID T. KEY, M.R.C.S. ENG., L.S.A.,
SURGEON-CAPTAIN VOLUNTEER MEDICAL STAFF.

DURING the recent meeting of the National Artillery Association at Shoeburyness, where I was doing duty as camp-surgeon, the following fatality occurred. On Tuesday, Aug. 6th, 1895, at 6.50 P.M., a man, whilst walking with a female companion along the footpath leading from South Shoebury to Shoeburyness railway-station, was struck by lightning and killed instantly. He was a London cab-driver, single, aged thirty, had been in the army, and was an army reserve man at the time of his death. The footpath is about six feet in width, having on one side a shallow ditch and a row of tall old elm trees, and on the other an iron railing about five feet high, the rails forming a row of pointed spikes six inches long above a horizontal bar. The tree nearest to the deceased was the last of the row. It was to the man's left hand, and the woman was between him and the railings. They were walking. There had been no rain for about three-quarters of an hour. Deceased was perfectly dry. I saw him within four minutes of his death. He had fallen on his face diagonally across the path, with his head towards the tree. His face was livid and suffused with blood. His eyes were closed; yellow mucus was exuding. He was quite dead, so I had him placed on a small ladder and removed at once, as there were still frequent flashes of lightning, a possible source of danger to onlookers. There was probably a rise of temperature, for I observed the body was very warm to the touch, and there was a very powerful smell of burnt hair and flesh. His companion was thrown against the railings, but did not fall. She was able to answer my questions, but was very pale. She said she felt heat on the left side of her face. Her left ear was filled with débris of hair. On examining the body at 8.30 A.M. next morning, in conjunction with Surgeon-Colonel Coats, A.M.S., garrison surgeon, the body was found to be well nourished, muscular, and well developed. Rigor mortis was well marked. On examining the head the point of probable entrance of the electric fluid was found to be at the vertex, almost central; slightly to the left of the central line showed an oval excavation in the hair about one inch. No wound was apparent. The hair was all singed short over the left side of the head. The left eyebrow, eyelashes, and left side of the moustache were practically gone. Fluid was escaping from the left ear. On tracing the burns on the left cheek and under the left lower jaw several large ones were found on the left thorax and sternum; thence centrally over the abdomen. The hair of the pubes was all singed short; the scrotum was swollen and livid; thence along the inner side of the right thigh and calf over the internal malleolus, the point of exit of fluid being at the inner and central point of the right heel. The burns were of various sizes and interrupted, the largest being that on the sternum, about one inch and a half in diameter. The surface of the burns was dried. The epidermis was entirely destroyed and gone. On examining the clothing, the hat was found to be in small shreds, but the coat and waistcoat were very slightly damaged. A blue woollen jersey was not much damaged. The shirt (grey flannel) was split in the same direction as the burns, and a merino undervest next the skin was split in the line of the burns two-thirds from above downwards—the edges of this crumbled when handled, but were not charred black. There was a hole through the watch pocket. The trousers were split into long vertical ribbons in both legs, but more especially along the line of burns. The right pocket was blown to shreds (there had been about 14*s.* silver money in this, which was picked up at the time of removing the body). The drawers were very much torn. The boots were of the front lace-up pattern, the soles and heels of which were entire, but some brass nails had started in the sole of the right boot. Half of the inner uppers of each boot was entirely gone; also the metal eyelet holes. The right boot was blown off the foot entirely at the time of the accident. The collar and cuffs were in shreds. The necktie (a bow) was split in two in the middle. The tree showed a spiral interrupted track of the lightning, the bark being broken off. The lightning apparently left the tree about ten feet from the ground, and four days later I observed just below this point one small thin twig (only) about two feet long, the leaves on which had withered. This would correspond to a point about eighteen inches above the man's head. The following articles were found on the deceased:—Money—besides the silver—in left-hand breast coat pocket, inside: Thirty-seven sovereigns and twenty-eight half-sovereigns in a common leather jaw-opening purse which had a metal rim and closed by two small knobs. The coins (nearly all) were wrapped in separate pieces of thin paper and the purse tied up in a handkerchief. In the waistcoat pocket, on the right side, a silver match-box containing two unignited wax matches and silver Geneva watch (no chain) were found. There was also a gold ring on one of the fingers. A pocket knife was also found. With regard to the condition of the coins, two half sovereigns were slightly fused and adhering together; one sovereign was partially fused on one side as though a splash of metal had been thrown on it. Many more of the gold coins showed traces of fusion of the milling of the edges only; several of the silver coins also showed similar fusion of the edges. The watch (open-faced) had a hole a quarter of an inch in diameter through the outer case by the hinge, and on opening this there was a splash of metal on the rim of the dome, and another on the bow. The watch had stopped at 6.55, but could be wound up. The steel hair-spring would not recoil, as probably it had lost its temper. The watch glass was broken. The ring and knife showed nothing. The metal rim of the purse had a small point of fusion on one side—inside—and the purse also had a hole through one side of the leather.

It would be interesting to know whether the base of the skull was fractured, as fluid was seen issuing from the left ear and not from the right one; whether from the apparent direction of the electric fluid in the line of the left pneumogastric nerve this would sooner affect the heart's stoppage; and, also, whether the deceased received the whole of the discharge or whether any passed over the woman's head to the pointed railings. There can be but little doubt that the gold attracted the lightning. Had deceased not been immediately under the tree his head would probably not have been struck first, but the gold would have received the discharge direct. The path of the lightning also should be noted—from the largest burn on the *left* chest (close to the heart's apex) through the watch pocket to the gold, thence to the *right* trousers pocket, touching the watch on its way, and giving a slight radiation towards the match-box. A violent explosive force was expended in the right trousers pocket so as to blow it to pieces and throw the silver coins towards

[29] Donkin: The Diseases of Childhood, p. 413.

and under the railings, where most of them were picked up at the time of removing the body. The next greatest force was expended in the right boot so as to blow away the adjacent inner sides of both boots. I gave evidence at the inquest, but the coroner would not give me leave to make a post-mortem examination, which no doubt would have added still more to what has been to me a case of great interest.

Reading, Berks.

## NOTES OF TWO CASES OF ENUCLEATION OF THYROID CYST.[1]

BY W. H. BROWN, F.R.C.S. IREL.,
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THE treatment of cystic goitre has hitherto been of a disappointing character, and the methods mentioned in the various text-books have always, so far as I have seen, been attended with much febrile disturbance and great personal discomfort, not to mention the uncertainty of success and the very tedious progress towards convalescence. In the two cases which follow I adopted the plan first carried out, I think, by Dr. Vachell of Cardiff in 1885. The cases are so alike in many points that I do not propose to make anything like a detailed separate report. I can supply any particulars that may be asked for as being important. Both tumours occurred in young unmarried women aged respectively eighteen and twenty-five years. The growths had been noticed between three or four years. No inconvenience had arisen until within a few months of my seeing them. There was no evidence of any general nervous disturbance or blood change. The reason they sought advice was the same in both cases—i.e., an occasional difficulty in swallowing and attacks of dyspnœa, the latter becoming gradually more severe and increasing in frequency. Upon examination, the tumours were firm and elastic, painless, and occupying the position of the left lobe of the thyroid gland. The tumours were almost the size of a large orange, fluctuation could not be made out, and the circumference of the neck was fifteen inches over the most prominent part of the swelling. Under ether I made an incision three inches and a half long over the most prominent part of the swelling down on to the capsule of the cyst. All bleeding caused by the incision was next stopped by pressure forceps, then with the finger and a blunt director the cyst was stripped from its attachments, steady sponge pressure following up this process; after that, the cyst having been freed on both sides, I opened it and allowed the fluid contents (about four ounces) to escape. This permitted of more room in the wound cavity and enabled me to complete the detachment of the posterior surface of the cyst wall with greater freedom of manipulation. After the removal of the tumour the cavity was packed with sponges for a few minutes; this effectually did away with any tendency to oozing. To give some idea of the depth of the wound, I may mention that it required six fair-sized sponges to fill it. After the washing out with carbolic water the wound was closed in the ordinary manner, and a large rubber drainage tube was inserted at the lower angle. This was removed after twenty-four hours. In both cases union by first intention was obtained, and the after-treatment does not need mention save perhaps that in the first week the patients were kept constantly upon the back, their heads being firmly fixed between two large sandbags. In neither case was there any important rise of temperature. Both patients are now well.

Until quite recently I had looked upon thyroid enlargement of this character as being somewhat beyond satisfactory operative treatment. The list of remedies given in the text-books does not mention one that in my opinion can be compared with the plan I have just described, and which, by the way, is not spoken of in any surgical work to which I have had access, save in Heath's Dictionary, where Dr. Felix Semon suggests that enucleation *might possibly* be undertaken, but does not advocate it, and by Mr. Jacobson, who advocates antiseptic excision, but quotes a case which is not very encouraging. In his recent work on tumours Mr. Bland Sutton states that all cystic growths of the thyroid gland have their origin in adenomata and that they can readily be shelled out from their bed, whether cystic or solid: and lately I have had the opportunity of verifying the statement by enucleating an adenoma of the thyroid gland in a girl of fifteen, the operation being perfectly straightforward. This case is also doing well. So far as I have seen, the operation itself is not difficult; once the tumour has been fairly exposed hæmorrhage ceases to be troublesome. In stripping the cyst wall I used the finger and blunt director, and thus avoided lacerating the gland tissue; unless this be done hæmorrhage of an embarrassing nature must occur. The originator of this operation worked through a small incision, opening the cyst at once and dragging it out of the wound afterwards. I prefer a freer opening so as to be in a position to command a good view of the wound cavity. In the second case the wound was fully five inches in depth, going down behind the sternum; and bleeding from such a distance would be most difficult to combat through a small incision. I need hardly point out that in this operation every detail of cleanliness must be most carefully observed, as carefully indeed as within the peritoneum; for nothing could more readily end in disaster than septic infection of the thyroid gland, and given that infection, septicæmia of an almost certainly fatal character would follow. Now that the distinction between the general enlargement of the thyroid gland and a growth in that gland, whether cystic or solid, has been made clear, and the fact that the latter can be dealt with by a safe operation having been demonstrated again and again, the operation of enucleation will probably soon obtain recognition in the text-books and become more general. It may often be impossible to say whether a given swelling is solid or cystic—in such cases exploratory puncture will help towards a diagnosis; but even if that should prove negative as to the presence of fluid, if the tumour appear to be in the thyroid gland and not of it, then operation can be entertained, as evidence Mr. Sutton's statement and my later case. Let it not be supposed that this operation applies to all cases of thyroid enlargement. Selection must be made or disaster will follow, and odium will be cast upon what is to my mind a very valuable addition to the surgery of the thyroid gland. Since writing the above I have had brought to my notice Mr. Charters Symonds' paper read before the Clinical Society in which he advocates operative treatment very much on the same lines, and quotes many successful cases.

Leeds.

[1] Read before the meeting of the Yorkshire Branch of the British Medical Association, at Scarborough, Nov. 2nd, 1894.

## MELANCHOLIA, WITH SPECIAL REFERENCE TO ITS CHARACTERISTICS IN CUMBERLAND AND WESTMORLAND.[1]

BY W. F. FARQUHARSON, M.B., C.M. EDIN.,
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THE subject of melancholia has many features of interest both for the general practitioner and for the asylum physician, and it is one that should give rise to much useful discussion. The family physician has the advantage of seeing the case at its onset, of studying the causes that have led to it, of watching its gradual development and growing intensity, of adopting measures for combating the attack in its earlier and more curable stages, and finally in severe cases it often devolves upon him to decide as to the necessity for asylum treatment; and his knowledge of the family history and surroundings of the patient must prove of great service to him in giving his prognosis and in formulating his treatment. The asylum physician, on the other hand, only sees the more severe cases, and those as a rule only after they have undergone treatment for a longer or shorter time at home; nor has he in many cases the same opportunities for ascertaining all the particulars as to the personal and family history of his patients.

*Nature of melancholia.*—Melancholia is characterised by the presence of mental depression out of proportion to any exciting cause and tending to become more and more independent of any such external agency. The patient begins gradually to lose interest in his former pursuits and pleasures, he shuns society, retires within himself, and gives way to morbid introspection and gloomy forebodings. For a time there may not be much noticeable alteration in the conduct of the sufferer; he retains at first

[1] Read before a meeting of the Border Counties Branch of the British Medical Association at Penrith, May 31st, 1895.

sufficient self-control to keep his troubles to himself—he knows they are morbid and have no real basis. In course of time, however, the mental aberration becomes more marked, he grows more and more unfit to pursue his ordinary avocations, the increasing difficulty of thought and of all mental work begets a feeling of resistance to the outer world, and hence originate the painful delusions which are so frequent in melancholia. In only 30 per cent. of the cases of melancholia treated at Garlands Asylum during the twenty-seven years from 1865 to 1891, inclusively, has there been simple depression without the presence of distinct delusions; in the remaining 70 per cent. delusions were more or less prominent; of course, in the large number of mild cases that never require asylum treatment there is a much greater proportion of cases of simple depression. According to the degree of mental depression, cases of melancholia have been artificially grouped into different varieties, as simple melancholia, hypochondriacal melancholia, delusional melancholia, and so on; but such subdivisions are purely arbitrary. All cases begin as simple depression and delusions are gradually evolved as the disease progresses; these at first are slight and fleeting, but gradually become more fixed and unchanging. The delusions of melancholiacs vary greatly in character. Delusions of suspicion and persecution are very common: the patient fancies that all his relatives and neighbours are in league against him, that he is being robbed of his property, or that his food is poisoned; in other cases some unseen agency is suspected to be at work—e.g., he fancies that electricity is played on him by invisible people. Very frequently the delusions refer to the spiritual welfare; the patient asserts that he has been very wicked, that he has committed the unpardonable sin, and that he is lost for time and eternity. In many cases the patient's whole attention is concentrated on the state of his bodily health; these form the group of hypochondriacal melancholia; such patients frequently exhibit an intense craving for sympathy and are constantly pouring forth lengthy statements of their imaginary maladies, some of the details being loathsome in the extreme. They complain that their bowels are never moved and they constantly clamour for aperients, or their throat is blocked up, or their stomach is gone, and so on. Some hypochondriacal melancholiacs talk much of putting an end to their woes by suicide, but they seldom make genuine attempts at self-destruction. In addition to other delusions, hallucinations of the special senses are frequent in melancholia. Hallucinations of hearing are most common; the patient hears voices mocking him, accusing him of crimes or inciting him to suicide. Next in frequency are hallucinations of sight; he is troubled by flashes of light or sees visions of various kinds. More rarely there are hallucinations of taste or smell; the patient complains of a persistent bad taste or of horrible odours. Some melancholiacs (often more chronic cases) pass into a state of great motor restlessness and excitement; they roam up and down wringing their hands, beating themselves about the body, loudly bewailing their fate, moaning and groaning continually. One such case in Garlands Asylum at present constantly declaims in somewhat the following strain: "Oh, what a fool I've been, I'se nought but a bit o' skin, I've no stomach, no bowels," and so on. This is the condition called melancholia agitans. Again, in some cases the depression passes into stupor more or less complete; the patient becomes more and more oblivious of surroundings till a state of complete apathy is reached; the expression is vacuous; no notice is taken of anything and no replies are given to questions; in extreme cases saliva dribbles from the mouth; at the same time there is vascular paresis, and the extremities become clammy and cold. There are two varieties of stupor: (1) melancholic stupor or melancholia attonita; and (2) inert or anergic stupor, or acute dementia. Melancholic stupor is characterised by the presence of some fixed delusion which absorbs the whole attention; there is a concentrated self-absorbed expression; it is often combined with great muscular resistiveness to all passive movements; after the stupor passes off the patient can often give a clear, connected account of all that happened while he was in the stuporose condition. Inert or anergic stupor is often the sequel of melancholic stupor; the patient is completely fatuous, lives a purely animal existence, and pays no attention to the calls of nature; there is no muscular resistiveness, but there is often a cataleptic condition with a tendency to maintain any position in which the body may be placed; there are no delusions; if recovery takes place there is no memory of anything that occurred whilst the stupor lasted. Such are the main varieties that melancholia may assume. The suicidal impulse is present to a greater or less degree in a large proportion of the cases. Out of 730 cases treated in Garlands Asylum it existed in over 65 per cent.; more than half of the melancholiacs who had this tendency had made one or more actual attempts at suicide; the remainder had only threatened it. The proportion of suicidal cases was 11 per cent. higher amongst the males than amongst the females; this relationship of the two sexes is still more marked with regard to suicides outside of asylums, for, according to Morselli,[2] "in every country the proportion of suicides is one woman to three or four men." Cumberland holds an unenviable position amongst the English counties with regard to suicide. Morselli[3] tabulated the suicides in every county in England and those in North and South Wales for the years 1872-76, and showed that Cumberland had the fourth highest rate, the annual average of suicides in this county being 96·2 per million inhabitants; in North Wales, where the rate was the lowest, the proportion per million was 36·7; and in Rutlandshire, which had the highest rate, the proportion was 153·9. Westmorland had a proportion of 58·3 per million inhabitants. The bodily symptoms of melancholia are characteristic. There is a condition of lowered vitality and anæmia, the complexion is muddy, the appetite is poor, digestion is impaired, and the bowels are torpid; the muscles are flabby, and there is a lack of vigour in all movements; neuralgic pains are often complained of at the onset, and sleeplessness is a most distressing feature. In many cases there is in addition some distinct organic disease, which may, indeed, be the exciting cause of the mental depression. Such a concomitant has existed in 29 per cent. of the cases of melancholia treated in Garlands Asylum. Phthisis pulmonalis was the disease most frequently associated with melancholia; it was present in almost 10 per cent. of the total number of cases; heart disease was present in almost 8 per cent. of the cases; whilst cancer and various other bodily diseases existed in smaller proportions of cases.

*Causation of melancholia and suicide.*—By far the most important factor is that of hereditary predisposition. The tendency to the mental disease is inborn and only lies dormant till at some critical period of life it is called into active existence. The cause popularly ascribed for an attack is usually just the spark which sets the train in action. Some bodily ailment or some mental shock which would produce no mental disease in a person with a healthily constituted brain is sufficient in those with hereditary mental taint to induce an attack of depression of a severity out of all proportion to the strength of the exciting cause. These immediate or exciting causes are most frequently of a physical nature; in considerably over half of the cases of melancholia treated in Garlands Asylum the attack had been preceded by some agency through which the general health had been lowered; included amongst these physical causes is intemperance in drink, which preceded the attack in 11·5 per cent. of the total number of cases. In about one-third of the cases the mental depression had been preceded by some trouble of a moral or mental character which was assigned as the cause; even in some of these cases, however, there was in addition some physical disorder preceding the attack; business anxieties constituted the most common moral cause in men, and domestic affliction in women. Considering now the question of hereditary transmission, there can be no doubt that melancholia is preeminently a hereditary disease. Hereditary predisposition was ascertained in over 38 per cent. of the cases of melancholia treated at Garlands Asylum during the twenty-seven years from 1865 to 1891, and undoubtedly it really existed in a much larger proportion of the cases. The relatives of the insane are often very loth to admit the fact that there has been previous insanity in their family, and, on the other hand, many of the poor are unable to give much reliable information about their ancestors for more than one generation back. It is an unfortunate thing for the race that attacks of melancholia are so curable and that individuals with this tainted constitution are allowed to marry and to propagate a degenerate stock, thus causing a more widespread deterioration of the race. Many of the country districts of Cumberland and Westmorland have only recently been opened up into free communication with the outside world; there for

[2] H. Morselli: Suicide, second edition, p. 189. [3] Op. cit., p. 46.

generations intermarriage has been going on to a most unhealthy and unnatural extent, with the result that the defects in the stock are further disseminated and intensified in each succeeding generation. The racial characteristics of the Cumbrians also foster the prevalence of melancholia. Remnants of old superstitions abound in many country districts, the inhabitants have not a superabundant supply of animal spirits, and they are often prone to look on the dark side of things; any little extra worry or some trivial bodily ailment is apt to upset their mental balance and produce undue depression or an actual melancholic attack. The inherited mental taint which predisposes to melancholia and suicide need not necessarily be derived from insane parents, it is an evidence of an unsound stock, and there may have been no actual insanity in the family for some generations back. Further, the unsoundness of the stock may not have previously exhibited itself as insanity at all, but as some allied nervous disorder, such as epilepsy, neuralgias, chorea, spasmodic asthma, &c. Drunkenness is a fertile source of race degeneration, and the victims of melancholia and suicide often have an alcoholic family history, though there may have been no previous insanity in the family. As already mentioned, outbursts of alcoholic excess also precede and act as the exciting cause of attacks of melancholia in a considerable number of cases. Alcoholism thus exerts its baneful effects, not only on the drunkards themselves, but equally, if not more, on their descendants. Then it has been attempted to prove that there is a relationship between the state of morality in a district and the amount of suicide in it. The state of sexual morality in any district can be roughly gauged by observing the proportion of illegitimate to total births. Dr. S. A. K. Strahan, in his book, "Suicide and Insanity," quotes a table of the suicidal and illegitimacy rates in the English counties; in Cumberland the illegitimacy rate is very high, 76 out of every 1000 births being illegitimate; this rate is only exceeded in one county in England, Shropshire, where the illegitimate births are 82 per 1000; in Westmorland the rate is 70 per 1000. The high rate of illegitimacy thus corresponds in Cumberland with the high proportion of suicides; but, as Dr. Strahan points out, there is not a similar correspondence in other counties in England. Thus Rutlandshire, which has the highest suicidal rate in England, only comes nineteenth on the list as regards illegitimacy; while Shropshire, which has the highest rate of illegitimacy, only comes thirtieth in the list of counties arranged according to frequency of suicide.

*Course and terminations of the attack of melancholia.*—Of the cases of melancholia admitted into Garlands Asylum from 1865 to 1891 inclusively, 58 per cent. terminated in recovery. As a rule recovery takes place gradually, and along with the improvement in the mental state there is a corresponding improvement of the bodily health; it is a favourable sign when the patient begins to put on fat. The duration of the attack in cases that recover varies greatly; of the cases that recovered in Garlands Asylum, 10 per cent. were discharged within three months, 47 per cent. within six months, 66½ per cent. within nine months, 73 per cent. within twelve months; 87 per cent. recovered in less than two years, leaving 13 per cent. who took more than two years to get over the attack. In some cases recovery takes place after a very prolonged attack of melancholic depression; three of the series of cases at Garlands Asylum recovered after having been in the asylum more than ten years; so long as the case remains one of pure depression, without marked impairment of the intellectual powers, there is always a chance of recovery; this constitutes one of the hopeful features of melancholia. Of the cases that do not recover a considerable number remain throughout life in a chronic melancholic condition; the face retains its expression of woe, the sufferers may still give utterance to mournful statements and painful delusions, but these are largely the result of habit; the physiognomy suggests more mental pain than is really felt; there is more loss of self-control than in the earlier stages, and there is a good deal of mental enfeeblement combined with the depression. Some cases pass into a state of mania, and a small proportion become demented; but melancholia is much less prone than mania to terminate in complete dementia. Twenty per cent. of the cases of melancholia treated at Garlands Asylum died without recovering from the mental disease. Phthisis pulmonalis was the most frequent cause of death, 22½ per cent. of the total number of deaths resulted from that disease. Gradual exhaustion from the melancholia without localised organic disease was the next most frequent cause of death (16½ per cent. of the total); in two other cases dying from exhaustion gangrene of the lungs set in before death and accelerated the fatal issue. Twelve deaths resulted from senile exhaustion, 10 from cancer, and various other bodily diseases caused the remaining deaths, with the exception of 6 which resulted from suicide. Three patients cut their throats (one of these had committed the act before admission to the asylum), one patient hanged himself, one was killed by jumping from a lofty window in an attempt to escape, and one patient, while out on trial for a month, had a relapse and committed suicide on the railway. Only two of the suicides were females; both cut their throats. Persons who have had one attack of melancholia are liable at some subsequent period of their lives to have a recurrence of the disease. Of the cases of melancholia admitted into Garlands Asylum 22 per cent. had had one or more previous attacks of mental disease. In a considerable number of cases melancholia has been preceded by a former attack of mania, and in other cases mania may attack persons who have previously suffered from melancholia.

The prognosis of an attack of melancholia is on the whole favourable. Contrasting the recovery rate of the cases of melancholia treated at Garlands Asylum with that of the cases of mania during the same period, it is found that the proportion of recoveries has been 4 per cent. higher in the former than in the latter. The following factors are of importance in forming a prognosis:—1. The age on attack. The statistics of Garlands Asylum show that melancholia is chiefly a disease of middle and advanced life; it is proportionately much less frequent than mania before the age of thirty, and considerably more frequent after sixty. The younger the patient is when attacked by melancholia the greater are the prospects of recovery, and the recovery-rate gradually falls as the age on attack increases; but even when melancholia comes on in advanced life there is still a fair chance of recovery. 2. Sex. In Cumberland and Westmorland melancholia seems to attack the female more frequently than the male sex; in the cases of melancholia admitted into the asylum females were in the proportion of 118·5 to every 100 males, while in the general population of the two counties there were in 1891 only 102·3 females to every 100 males. Of the male melancholiacs admitted 60·5 per cent. recovered, compared with 55·8 per cent. of the females, so that in this district the chances of recovery from melancholia are slightly greater in the male than in the female sex. 3. Hereditary predisposition. In hereditary cases attacks of melancholia are apt to come on earlier in life than in non-hereditary cases: the individual attacks are more curable and the death-rate is lower, but relapses are more frequent. 4. Cause of the attack. When the exciting cause of the depression has been of a temporary or removable nature the chances of recovery are greater than when it has been brought on by incurable bodily disease or by prolonged mental worries and suspense, endured it may be for years before the mind has finally given way. The melancholia of the heart-broken girl after a love disappointment is, as a rule, transient and short-lived; the depression that follows a drinking bout is usually quickly recovered from, frequently to relapse when supervision is withdrawn and the evil habit is returned to; on the other hand, the melancholia that is associated with a serious bodily disease, such as phthisis pulmonalis, often ends only with death. 5. Mode of onset. The prognosis is more favourable when the onset of the mental depression is rapid, and is in contrast to the natural temperament of the individual, than when the melancholia sets in deliberately or is simply the climax of the gradual evolution of an inherently gloomy and joyless disposition. 6. Duration of the attack before treatment is commenced. The sooner the patient is placed under proper care and treatment the greater are the chances of recovery. 7. Severity of the attack. Simple depression is much more curable than melancholia with delusions. If the delusions are fixed and unchanging, and especially if they are of a visceral nature or if hallucinations are present, then the outlook is less hopeful. In cases where there is extreme restlessness and acute delirium in patients of feeble constitution the prognosis is extremely grave. Other serious signs are continued bodily wasting, persistant refusal of food, and long duration of the attack in spite of treatment. It is well to remember, however, that so long as there is no marked impairment of the intellectual powers there is always the hope of recovery, even though the depression may have lasted for years.

*Treatment of melancholia.*—Mild cases of melancholia are more amenable to home treatment than most other forms of insanity, and many such cases can be, and are, treated at home throughout their whole course. The patient's friends notice his increasing abstraction and unhappiness, but, apart from a feeling of solicitude for him, they themselves are not appreciably inconvenienced, and consequently they are less anxious about having him removed from their midst. On the other hand, the onset of mania is generally more rapid; the individual suffering from this disease much sooner becomes actively objectionable to those in his vicinity; his restlessness, his loquacity, his noise and combativeness, all combine to make him an uncongenial associate, and quickly reconcile his relatives to his removal elsewhere. In confirmation of this statement an examination of the admissions into Garlands Asylum for the past year shows that on an average the duration of the attack of insanity prior to admission to the asylum has been considerably greater in the cases of melancholia admitted than in those of mania. The period at which a melancholic patient is sent to an asylum is also dependent to a considerable extent on his pecuniary position. A case of melancholia, which in the upper and middle classes might be treated at home throughout the whole of its course, would, if it occurred in a working-class family, be sent to an asylum as soon as the individual was so far affected as to be unable to continue his occupation; he ceases to earn a livelihood for himself and becomes a burden upon the other members of the household which they are unable to bear; and, besides, it is not possible in the houses of the poor to provide the adequate accommodation or supervision for the treatment of such cases. Corroboration of this general statement is afforded by an examination of the pauper and private admissions of cases of melancholia into Garlands Asylum; the average duration of the attack prior to admission has been considerably greater in the private than in the pauper cases. It may be well here to briefly summarise some of the points which must be kept in view in deciding on the question of home or asylum treatment. Over twenty years ago Dr. Clouston read a paper on this subject before the Border Counties Branch of the British Medical Association, and most of what he said then still holds good to-day. Each case must be decided on its own merits. The physician must take into consideration the nature and severity of the symptoms and the circumstances and surroundings of the patient. Many mild cases can be satisfactorily treated at home, where the patient will have the kind care and attention of his friends. In more advanced cases, however, suspicion and distrust of all friends and relatives often become distressing features, and then the surroundings and associations at home may aggravate the disease; in such cases removal from home is often necessary before any alleviation of the symptoms can take place. Where there is persistent refusal of food and medicines, unless the medical man can attend several times a day to feed the patient artificially, asylum treatment is demanded. If the suicidal impulse is strongly developed, then the asylum is much the safest place for the patient; however careful friends and attendants may be, there are always far greater opportunities for committing suicide at home than in an asylum. Even mild cases of melancholia may have to be sent to an asylum if after prolonged treatment at home recovery does not set in; the complete change of surroundings, the regulated life and the amusements of the asylum, will often produce the desired improvement. As already indicated, the patient's means must be taken into account; if special attendants have to be provided home treatment becomes too expensive for those with small incomes, and for this reason removal to an asylum may be necessary. It is extremely difficult to treat a bad case of melancholia in a large town, and if the friends are unable to send the patient with proper attendants to a quiet country place, an asylum, being situated, as it usually is, in the country, is more suitable. Where the case is one at all suited for home treatment, it is always best for all concerned to keep the patient out of an asylum so as to avoid the stigma, unjust though it be, which is attached to those who have been in an asylum or who have had relatives under treatment there. In the treatment of melancholia the first indication is to combat any agencies which may have induced or may be fostering the mental depression. All undue mental effort and all harassing brain work must be stopped. In the young too much attention to religious exercises should be forbidden; they should not be allowed to attend too many prayer-meetings. If possible the patient should be removed from depressing surroundings. In mild cases change of scene is advisable—removal to a quiet country district, with life in the open air as far as possible and outdoor recreations; or he may go with a cheerful companion for a course of travel by easy stages. The diet is of great importance; the patient should have abundance of fat-forming food, plenty of milk, butter, eggs, and easily digested food; too much butcher's meat should be avoided, and the cooking should be good so as to tempt the appetite. In cases where food is absolutely refused artificial feeding by the stomach-tube must be resorted to twice or thrice daily; the simplest and best form of liquid diet to be given in this way is a liquid custard made with milk, sugar, and several eggs; soup may also be given, and if feeding has to be continued for a long time meat and vegetables may be pounded up in a mortar with beef-tea and administered by the tube; along with the food malt extract, stimulants, or drugs may also be given by the tube. In addition, general tonic treatment should be employed; iron, quinine, strychnine, and vegetable bitters are often serviceable. Attention must be paid to the state of the bowels, constipation being often a troublesome symptom. Stimulants are often useful when the health is much run down, especially malt liquors, such as beer or porter; in some cases a little whisky at bedtime aids sleep. Much distress is often caused by sleeplessness; this can frequently be remedied by getting the patient to take plenty of outdoor exercise, and a good meal shortly before bedtime frequently acts as an excellent soporific; if these measures are not sufficient it becomes necessary in addition to administer sedatives. At Garlands Asylum paraldehyde has proved in many cases a most efficacious hypnotic; bromide of potash, sulphonal, or chloral may also be used to procure sleep. In excited cases of melancholia it often also becomes necessary to give sedatives during the day. Sulphonal given in small doses twice or thrice daily has proved very serviceable in cases of melancholia agitans; it subdues the motor restlessness, induces sleep, and promotes recovery, but its action must be carefully watched, as when its use has been long continued it has been found in some cases to produce very deleterious effects on the blood. The bromides may also be used as day sedatives, and they may advantageously be combined with tincture of cannabis indica. Opium at one time was extensively employed in the treatment of melancholia, but it has been found to produce injurious effects on the system. If there is the slightest suspicion of suicidal longings the patient must have constant companionship with someone who must never allow him out of his sight. A suicidal patient must not be allowed to sleep in a room by himself; all articles, such as razors, guns, &c., which can suggest the idea of suicide should be removed. In cases that require to be sent to an asylum the mere change of scene and surroundings, the regulated life, the discipline and the amusements of the asylum, and the removal from relatives and friends, whose attentions often increase the patient's distress, are of themselves sufficient in many cases to initiate a quick improvement in the mental state. The opportunities afforded for attempts at suicide are fewer. The patient is given open-air exercise sufficient to promote appetite and to improve the tone of the system, but not unduly fatiguing. The diet is carefully attended to; tonics and stimulants are prescribed when necessary, and sedatives are made use of. An endeavour is made to get the patient to take part in games and amusements, and to employ himself usefully. The general object of treatment, in short, is, by improving the bodily health and rendering the environment of the melancholiac as agreeable as possible, to substitute a feeling of well-being for the unhappy emotions that have laid hold of him. As regards prophylaxis in melancholia, great care must be taken as they grow up of children who have a hereditary tendency to this disease; they should be made to partake largely of fattening foods, should live much in the open air, and should not be forced to work too hard at school; they require special attention at the time of puberty and during adolescence. Those who have already had an attack of melancholia should live well-regulated lives, avoid exciting occupations and arduous brain work, and take a good holiday in the country whenever they feel a little run down. They should always endeavour to have a good night's sleep, and whenever they begin to pass sleepless nights should at once discontinue all work and go into the country.

Carlisle.

A CASE OF

# FRACTURED BASE OF SKULL WITH LACERATION OF BRAIN, ACCOMPANIED BY SUGAR AND ACETONE IN THE URINE.

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THE following interesting case came under notice at the West London Hospital in July last. The patient, a police sergeant, was on night duty on Friday, July 12th. On Saturday morning, the 13th, he returned to the police station at the usual time, and there gave a written report of his night's work. From this report it was shown that he had met police constables about every hour during his rounds. Nothing strange or peculiar in his manner was noticed by any of these men, and the inspector to whom he made his night's report said he was apparently in the best of health. The patient had some food and then went to bed about 10 A.M. on Saturday morning. During the daytime he got out of bed on several occasions and went downstairs to the watercloset. Later in the day a police-constable who shared the same bedroom noticed that the patient was not quite himself, that he appeared irritable when spoken to, and later seemed "drowsy and bilious." The divisional surgeon was called in to see him at night and diagnosed the case as epilepsy. Two bruises were detected by the surgeon, one behind the left ear and the other at the inner canthus of the left eye. These bruises he supposed to have been inflicted during the epileptic fit, and his present drowsy condition to be one of post-epileptic coma. The patient was a strong, athletic man, who up to the present time had always enjoyed good health. On Sunday night, July 14th, he was admitted into hospital, when he lay on his side with closed eyes and breathing easily. He violently resented any attempt at examination, and answered incoherently when roused by shouting in his ear. The pupils were equal and normal. The pulse was 56, full and strong. He was very restless. The lungs, heart, and other organs were apparently healthy. There was no paresis. A bruise was noticed behind the left ear over the mastoid process, and another at the inner canthus of the left eye. The specific gravity of the urine was 1030. There was no albumin, but strong sugar reaction. The patient was very restless during the night, and made several attempts to get out of bed. He had incontinence of urine. On Monday, the 15th, he was quite unconscious. The restlessness had passed off. There was no paresis. The swelling and bruising behind the left ear were much more marked. Sugar was present in the urine. The coma becoming more pronounced, a consultation was held in the afternoon, when the question was raised as to whether the symptoms, in the absence of any history of injury, were not due to post-epileptic or diabetic coma. It was decided, however, to make an exploratory operation. At 6.30 on Monday evening, under an anæsthetic, Mr. Bidwell operating, an incision was commenced immediately behind the mastoid, and on turning down a large square flap an extensive fracture was discovered. This fracture was followed, and was found to extend from the centre of the lambdoidal suture behind to the posterior part of the zygoma in front, traversing the occipital (slightly) squamous portion of the temporal and parietal bones, and also part of the zygoma. The fracture was fissured and splintered. Mr. Bidwell removed the splintered portion of bone, together with some more bone around it, in the neighbourhood of the middle meningeal artery, and on opening the dura mater a large amount of lacerated brain substance mixed with fluid blood and small clots escaped. The mid-meningeal artery was intact, but one of its posterior branches was ruptured. As further operative treatment was considered inadvisable the wound was closed. Although the patient appeared to improve somewhat after operation, in a few hours the coma began to deepen. Paresis set in, commencing first on the right side. Some urine was now collected and tested. Sugar was present, and with it acetone, the tests on this occasion being carried out by Dr. Archibald Garrod. This was the first time on which the acetone test had been applied. From this time until his death the patient gradually got weaker, and died at 12.30 A.M. on July 17th, three days after admission. About six hours before death some urine was collected and tested, when it was found that the sugar and acetone had disappeared.

*Necropsy.*—At the post-mortem examination the following lesions were found. On removal of the scalp a fissured fracture was seen, extending from the posterior end of the zygoma to the middle of the lambdoidal suture. From a point about two inches behind the commencement of this fracture another ran across the middle fossa to the foramen ovale, and thence to the foramen lacerum medium. The trunk of the middle meningeal artery was uninjured, but a small posterior branch was torn across. A smaller fracture extended from the foramen ovale to the sphenoidal fissure. Rather below the groove for the left lateral sinus another fracture was traced from the end of the main fracture almost to the jugular foramen. A clot was lying loosely along this fracture, but the lateral sinus was apparently uninjured. The mastoid cells were full of clot, but the middle ear had escaped injury. The left hemisphere of the brain had sustained most extensive injuries, and the right hemisphere also had not escaped, the lesions here being apparently due to contre-coup, the anterior extremity of the second right temporal convolution being much lacerated, the laceration extending from the surface into the fissure of Sylvius, in which there was a large clot. The left temporal lobe had sustained an even more severe injury, the anterior extremities of the first and second left temporo-sphenoidal gyri being reduced to a pulp. The posterior extremities of the second and third temporo-sphenoidal gyri were in a similar condition, being immediately under the depressed piece of bone which was removed at the operation. In the left frontal lobe there was a large laceration with much blood clot on the orbital surface and another at the apex. In the right frontal lobe there was a similar condition on the orbital surface and another laceration at the junction of the external and orbital surfaces. The basal surfaces of both frontal lobes were practically reduced to cysts. Elsewhere, both on the right and left hemispheres there were numerous small subarachnoid effusions and a small laceration involving the third left occipital convolution. There were adhesions of the right pleura. All the other organs were healthy.

*Remarks.*—This case appears to us of considerable interest both from a medico-legal and from a purely medical aspect. Firstly, the absence of any history of injury does not negative the view that the patient suffered violence. In hospital practice we are well acquainted with cases of fracture, especially of the posterior fossa, in which the patient has walked up to the hospital on the following day or later, and has complained of headache without remembering any accident. Many such cases have been recorded in THE LANCET, the most remarkable being that of a man who fell on his head, but was not stunned, and had no symptoms for fourteen days, when he became comatose and died the next day. An extensive star-shaped fracture in the left mastoid was discovered at the necropsy. In another case a man aged forty fell thirty-five feet, alighting on his feet. He felt shaken, but was not stunned, and he went to work the next day. He had no symptoms until the fourth day, when he complained of pain in the ear. This, however, did not prevent him following his occupation. Three weeks after the accident he had severe headache and paralysis of the right sixth nerve. He remained in the same condition for four months, when he had very violent delirium and died within twenty-four hours. The necropsy disclosed a comminuted fracture of the petrous portion of temporal bone. Secondly, we know that glycosuria does occur in head injuries. But we are not aware that acetone has ever been found in association with the so-called "traumatic glycosuria." The urines in these cases of head injuries are not often tested, owing chiefly, no doubt, to the fact that incontinence is generally present. Thirdly, were the acetone and glycosuria in this case of any value from a medico-legal point of view—i.e., was the injury due to a fall while the man was in a state of diabetic coma, or were the glycosuria and acetone secondary to the trauma inflicted on the brain? Fourthly, if the case were one primarily of diabetic coma, would the acetone and sugar in such a case disappear several hours before death, as happened in this case? Lastly, would it

be possible for a man apparently in the best of health and without any history or symptoms whatever of diabetes to suddenly develop the coma of diabetes? These are, we think, important points to consider in giving evidence in such a case before a jury. In this case the police ridiculed the idea of foul play. The coroner's court returned an open verdict.

# THE PREPARATION OF ANTIRABIC SERUM AND THE METHOD OF DETERMINING ITS STRENGTH.

BY PROFESSOR GUY TIZZONI AND DR. EUGENE CENTANNI.

(*Continued from page 664.*)

## III.—MODE OF DETERMINING THE PROTECTIVE POWER OF THE ANTIRABIC SERUM.

IT was evident from the results of the preceding experiments upon rabies executed in our laboratory that the importance of an exact method of determining the dose to be used against this infection was very great, it being observed that a determinate quantity of serum was alone of value in the neutralisation of a given quantity of virus. In our successive studies the difficulties which from time to time were met with in determining the power of a given serum obliged us to return to the question of dosage and to ascertain the various conditions whereby we might be able to obtain constant results. Moreover, since our researches had not simply a scientific aim, but contemplated an eminently practical one, it is clear that, until the conditions indicated had been complied with, it would have been very imprudent to pass to the application of our remedy to man. The general lines of our method follow those actually in use in serum-healing, but in their application to rabies, which is quite a special infection, they necessarily undergo some modification and additions, which we shall now proceed to specify.

### 1. DOSE OF THE VIRUS.

*a. Importance and difficulty of the determination of the dose of the virus in rabies.*—In our preceding research we unfortunately had not taken the dose into account. We limited ourselves to the production of the infection as is commonly done in antirabic institutes—with a highly variable material, regulating the dose by the concentration of the emulsion and by the quantity injected. To graduate the power of the infection we make use only of virus—the fixed virus and the canine virus. It is certain, however, that in rabies the question of the quantity of the virus which is used in the test infection ought to have no less importance than the differing strength of the virus itself, as has already been reliably demonstrated in the two typical infections upon which serum-healing has been founded. We know, in fact, that in tetanus the smallest fraction of the established dose of the poison suffices to kill, because the animals die without being affected at all by the injections of the serum, which would otherwise have surely saved them against the exact dose of the poison. If these difficulties are found, then, in experimenting with soluble and therefore exactly measurable toxic substances, how much greater ought they to be when in the material employed for experimental infection one has to deal with living germs—that is, instead of with an intoxication, with an infection properly so-called, and with an infection of which we do not know the active agent or the manner of artificially cultivating it. In the intoxications, the quantity of antitoxin introduced into the body remaining constant, if there is any excess of injected poison the least quantities of toxine not neutralised by the serum are manifested by morbid phenomena proportional to their dose. In the infections, on the other hand, including rabies, as will be demonstrated later, a small quantity of germs not rendered inactive by serum, proceeding to develop, ultimately kill the animal (after some considerable time perhaps)—in general, as much later as the residual quantity of the virus is less. Although the toxic infection can be utilised for the determination of the serum, in the case of rabies the inquiry must be restricted to the quantity of serum capable of completely neutralising in the body a given quantity of virus, without, that is, the animal presenting any morbid phenomena, its sole effect, therefore, being to postpone a fatal result.

*b. Directions for the preparation of the infecting material.*—In rabies we must make use of a natural cultivation of the virus which contains a large quantity of foreign materials, all constituents of the nervous system. As yet there is no artificial way of making a cultivation of the virus of rabies; this constitutes an inconvenience, especially with the canine virus, which is extremely variable in intensity, according to its derivation. The fixed virus we may consider is certainly relatively, if not absolutely, more constant. With this last virus the activity can also be varied by several factors—the individual condition of the animal; the rapidity with which it dies; the part of the central nervous system which is chosen for the infection; and, lastly, the period of preservation in glycerine. We have tried to reduce to a minimum all these inconveniences. For the fixed virus we have always allowed the animals to die spontaneously, because, having killed one of them, actually *in extremis* and for a long time paralytic, the dilutions, usually active, were unsuccessful. To obviate all mistakes which could arise from the diverse quantity of germs contained in the various regions of the nervous system we have always taken the material from the same part—that is, from the bulb. From the great frequency with which we made our experiments, not always having the opportunity of practising infections from head to head, we have often been obliged to have recourse to infections with virus preserved in glycerine. But, since the duration of this preservation is not indifferent in the determination of the degree of virulence, we have always tried to make use of a virus which had been collected for not more than three or four days. In the case of the virus "da strada" we have not been able to put into practice all these precautions—unassociated as we are with any anti-rabic institution. We have usually chosen a virus which killed in from sixteen to twenty days, obtaining results which would represent a mean between those obtained with a virus of varying derivation. However, the canine viruses have been rejected as being either too weak or too energetic, and we have had among the last of these one which gave the first signs of disease at the eighth day and death at the eleventh. The material was preserved like the fixed virus, but rather longer, we having observed that the differences which can come from its gradual attenuation, by its preservation for three or four months in glycerine, are less marked than those which we come across when having frequent recourse to the virus of another animal. For the rest, along with every series of experiments numerous controls are always made as a guarantee that the material employed had preserved its virulence to the desired degree. The virus of rabies which is found in the nervous system presents another disadvantage compared with bacterial culture, and much more as compared with soluble toxin—it exists in a solid and insoluble form. It is necessary, therefore, to reduce it to the state of greatest sub-division, whereby the injection is made to represent a condition of mean stability. To this end we take a piece of virus always in a quantity of 10 grammes, exactly weighed, and break it down for a long while in some combination of fluid, in the common conical graduated glasses, by means of a rod of glass polished with emery; it is then slowly mixed with the desired quantity of sterilised distilled water.

*c. Choice of the most suitable dilution of the canine virus.*—It is known how in the rabid nervous system the virus may be highly concentrated, so that it is necessary to make certain dilutions before being able to follow the varying duration and intensity of the morbid phenomena. And, further, we meet with extended series of dilutions from which we obtain a progressive lengthening in the period of incubation before any effect whatever appears. These facts have been demonstrated specially upon the fixed virus by the experiments of Pasteur and of Babes. It is worth noting that in the emulsion of virus which is commonly used to infect rabbits one finds a multiple of the minimum fatal dose of the same virus, a multiple for several reasons variable, and which would render useless any precise measure it might be desirable to use in testing the anti-rabic serum. We have chosen for the infection of our rabbits a dilution always definitely determined, and however stronger the emulsion it always produced death without delay after the ordinary period of incubation. Wishing to have a means of measurement which should demonstrate not merely the higher degrees of the power of the serum we were obliged to keep the virus at a dilution not too concentrated. In the

virus "da strada" these experiments to determine the most suitable dilution have been made with a material which in the concentrated emulsion gave the first phenomena at from the eleventh to the fourteenth day, and death at from the sixteenth to the twentieth day. It will be understood that of the final dilution there was always injected a known quantity exactly proportional to the weight of the animal—that is, 0·013 c.cm. (one-fourth of a drop) for every kilogramme. The results of these experiments are collected in the following chart.

TABLE VIII.

| Number of register. | Weight of rabbit in kg. | Degree of dilution. | Equivalent in virus. | Results. | |
|---|---|---|---|---|---|
| | | | | First Signs. | Death. |
| 43 | 1·430 | Virus: water 1 : 50 | 0·00026 gr. per kg. | 15th day. | 18th day. |
| 39 | 1·410 | 1 : 100 | 0·00013 ,, ,, | 17th day. | 20th day. |
| 52 | 1·700 | | | 14th day. | 22nd day. |
| 44 | 1·690 | 1 : 200 | 0·000075 ,, ,, | — | 91st day. |
| 45 | 1·110 | 1 : 500 | 0·000026 ,, ,, | Survives. Four months' observation. | |

Experiments similar to the preceding have been repeated with virus taken from a second dog, which produced, however, death after a period of incubation of from sixteen to twenty days. Thus in this case we have found that the dilution limit before any delay whatever in the incubation period was obtained was represented by 1 in 100. We, however, in order to remain within the bounds of a safe injection, and in order to cover the small inevitable variations in the strength and in the distribution of the virus, have avoided the extreme dilution, adopting for the subdural infection the double degree—that is, the dilution 1 in 50 (10 grammes of virus in 500 c.cm. of water). As of this dilution we injected 0·013 gramme per kilogramme of the body weight of the animal, we had to inject for every kilogramme of the animal 0·00026 gramme (one-fourth of a milligramme) of pure virus.

*d. Choice of the suitable dilution of the fixed virus; advantage of the fixed virus over the canine virus in estimating the power of the serum.*—Notwithstanding that our researches upon rabies were well advanced and combined a degree of exactness and desirable safety—we now think we find ourselves completely free from any inconvenience in the determination of the power of the serum—it was still necessary to test our remedy against the most active virus of rabies to be obtained. The determination by means of the canine virus demands above everything a great loss of time, not only as regards the regular periods of incubation, but especially as regards the long periods of subsequent observation to which it was necessary to subject these animals. For if the least quantities of virus remained not neutralised, as we pointed out a little while ago, we were always obliged to wait for a very long time in order to see whether the rabbits died from rabies—sometimes as long as four months. From this it will be understood how, wishing to make a complete series of graduated experiments in order to establish the power of a given serum, we might have to keep a considerable number of animals under observation for several months, thereby losing precious time, since in this period the criterion for passing to another series of experiments was wanting. On the other hand, with the fixed virus we can, as early as the fifth day, infer the result of the experiment from the diminution in the weight, and in a certain number after from fifteen to twenty days such a result can be definitely declared, since the virus is either quite destroyed, or the smallest quantities which remain not neutralised, when a virus so energetic is used, cause death comparatively early. It is on this account that, while great delays in death, according to the dose and the quantity of serum employed, are not rare when we make the determination with the virus "da strada" instead of with the fixed virus, we have, in a large number of experiments, seen death protracted over the limit indicated in one case only. From the rapidity in the determination of the strength of the serum there is also derived an economic advantage not to be despised, as one is no longer obliged to keep under observation the same series of animals and one is able to set aside for vaccinating material the nervous system of those animals which would have died in the trial of the serum after the infection with the fixed virus. But a most important consideration compelled us to find a still more suitable method of research. As we were obliged to supply our serum to various experimenters, it was necessary to find a common term of measurement in order that the repeated experiments might be comparable with our own, it being known how much the power of the virus of rabies "da strada" varies in different dogs. This continued efficacy can only be hoped for with the fixed virus; there is further, however, another advantage. As soon as our serum has been shown to be efficacious against the most active virus we shall be able to silence the possible objections to its application to man and to calmly await the practical test. For some time we continued to make attempts to confer immunity against the fixed virus by means of our serum; we were assured of the final success of these attempts, as we believed that in vaccination dealing with specific actions every vaccinating virus is of value to protect against itself. We were obliged ultimately with our serum to succeed in neutralising the virus which would be employed in vaccination. We have not, however, treated of the qualitative differences, although there was the difficulty, on the one side, of obtaining a serum so energetic as to counteract a virus so intensified, and, on the other hand, of fixing the dose of the fixed virus to be injected in such a manner as to have degrees of infection exactly determinable. Of course, our first experiments undertaken with serum not yet very strong and with an excessive quantity of the virus necessarily failed. We have undertaken these experiments successively, and our first care has been to determine the dose of the fixed virus to be injected. As we had already found for the virus "da strada," so also have we found, for the fixed virus, the larger dilution which would cause death to the animal without any delay. For the infection we have used the subdural method, and the quantity of emulsion introduced has always been 0·013 gramme per kilogramme of the weight of the animal.

TABLE IX.

| Number of register. | Weight of rabbit in kilogrammes. | Degree of the dilution. | Equivalent in virus. | Death. |
|---|---|---|---|---|
| 172 | 2·000 | Virus: water 1 : 50 | 0·00028 gr. per kileg. | Eighth day. |
| 151 | 1·600 | 1 : 500 | 0·000026 gr. ,, | ,, ,, |
| 152 | 1·600 | 1 : 1000 | 0·000013 gr. ,, | ,, ,, |
| 154 | 1·620 | 1 : 5000 | 0·0000026 gr. ,, | ,, ,, |
| 153 | 1·350 | 1 : 10,000 | 0·0000013 gr. ,, | ,, ,, |
| 160 | 1·570 | | | Ninth ,, |
| 171 | 1·790 | | | Eighth ,, |
| 158 | 1·850 | 1 : 20,000 | 0·00000075 gr. ,, | Ninth ,, |

Repeating the same observation for a fixed virus obtained from another laboratory, we have found that the greatest dilution which regularly produced death without delay was one of 1 in 5000. In the experiments made with the first of these viruses we have, therefore, adopted the dilution of 1 in 10,000, and in those made with the second that of 1 in 5000. Of this we are particularly careful, because in controlling our material we have, first, the warning given in the determination of the greatest dilution in which the fixed virus with which one makes the trial gives fatal effects without delay, that this dilution is not constant for the various samples of fixed virus, even though these produce death in the regular term of seven days. Injecting 0·013 gramme of the dilutions for every kilogramme, the quantity of fixed virus which can be injected in the proportion of 1 in 10,000 corresponds to 0·0000013 gramme, and in the proportion 1 in 5000 to 0·0000026 gramme. We see, therefore, that with the virus of rabies, as with every other infection, the different cultures of it in equal quantities of volume and weight do not contain a material of a constant strength; in order, therefore, to determine the dose of a given cultivation we are compelled to have recourse, as is already done in the case of tetanus and diphtheria, to the measure of the pathogenic effects produced upon the animal organism. In our case we shall call the "infecting unit" the greatest dilution of a virus which in the dose of one-fourth of a drop per kilogramme of the body weight succeeds in causing fatal rabies without any prolongation of the normal period of incubation. We have thus the infecting unit for each of the two viruses—viz., for the

fixed virus causing death in from seven to eight days, and for the canine virus in from fifteen to twenty days.

*e. The place and method in which we practise the infection.*—To introduce the virus we make use of the smallest glass syringe with the finest needle, all exactly graduated to 0·026 c.cm. (half a drop), which corresponds to the dose of the emulsion per two kilogrammes, the mean weight of our rabbits. We have, in the course of our experiments, made use of two methods of infection—viz., the subdural in the neck and the intra-nervous in the sciatic nerve. For the subdural infection we follow the common course of making the needle slide somewhat horizontally for a certain distance between the bony walls and the dura mater before transfixing this last in a manner that the puncture is made beyond the trepanned area. In this way, after the virus is injected and the needle withdrawn, the opening left is compressed against the bony walls, and thus closed so that any regurgitation of the injected liquid is avoided, which, if it happened, would take away all value from the experiment. The infection by the sciatic nerve has been undertaken by us only in a few cases, nearly always comparatively with the infection by way of the neck. By means of this infection we approach much more to the natural mode of infection in man, and to the smallest mortal dose of the virus, inasmuch as the direct lesion of a large nerve trunk always represents a more serious lesion than any small bite. As it seems that the value of the infection in the sciatic nerve is not understood by all, and that the accuracy of the results obtained by this mode of infection is not generally recognised, we continue to assert, pointing both to our long experience and to the results obtained by others (Divestia and Zagari), which are recognised as being exact even in Pasteur's laboratory, that the injection of the virus of rabies into the sciatic nerve of the rabbit succeeds just as when the injection is made under the dura mater. This success is the fruit of careful management. Having laid bare the nerve and raised it with a blunt hook we introduce the needle by a long track into its thickness, parallel to the fibres and with lateral movements repeated both going and coming; we thus break and separate the nerve fasciculi in such a fashion as to form a long canal, which is soon filled with virus. We consider that we have thus overcome the objections raised to those among our experiments made by the intra-nervous infection method; as for the rest, basing our results always on a considerable number of experiments with relative control experiments, one was not invariably able to invoke for them an exceptional fate (reading *fato* instead of *fatto*). The sole difference which we have been able to note between the one form of infection and the other is that in the intra-nervous infection the course of the diseases is a little longer. In our experiments on the sciatic nerve—to put ourselves within the limits of the surely fatal dose, and regard being had to the smaller sensibility of the part—we have always employed a stronger solution than is used for the neck: That is, we have in the case of the virus "da strada" made the infection with the dilution 1 in 20 instead of that of 1 in 50, introducing a quantity almost equal to that used for subdural infection. For the fixed virus the dilution has been considerably greater—i.e., 1 in 1000—when we have experimented, as we shall see, with the direct protective method. The dose of the serum offers no difficulty. We have employed in our experiments both liquid serum and dried serum with identical results. All the calculations upon its power are made taking for a basis the liquid serum; between this and the solid, as we have said, there exists the mean relation of 13 to 1. In order to inject the smallest quantities dilutions are made with the physiological "normal" solution of chloride of sodium. The protective power in life is expressed by Behring's method—that is, the mean ratio between the number of grammes of rabbit protected by a c.cm. of serum. In the experiments *in vitro* the power is expressed by the ratio between a c.cm. of serum and the number of infecting units which it is capable of neutralising. As for the ways of introducing the serum, we have made use of the subcutaneous connective tissue of the back and the subdural space of the neck; in no case in this new series of experiments have we had recourse to intra-peritoneal or intravenous injection. With respect to the quantity of serum to be injected we have not been able to take as a rule the least quantity capable of neutralising a determined dose of virus, because (by reason of mistakes of which we have spoken earlier) such a quantity of serum was at one time shown to be sufficient, at another to be insufficient, to destroy every effect of the virus. Here it occurs to one naturally, not only to take into account the small variations which arise out of individual dispositions, but also to introduce a quantity of virus little if any greater than that absolutely necessary for the most easy and ready multiplication. On the part of the serum, also, there may be slight variations depending on the different rate of absorption when injected under the skin, and on the variable readiness with which the active principle comes to be assimilated by the tissues or destroyed and eliminated. In order to confirm these facts we shall give an example taken from Table VII., which demonstrates how before the power of the serum enters into the domain of constant results a large zone exists in which there are oscillations depending precisely on the aforesaid reasons. It results from the experiments reported in this table that, while a dose of serum 1 in 25,000 is undoubtedly sufficient to protect the rabbit against the established subdural infection, the smallest errors which enter into the determination of the same infection are not less compensated for completely by increasing the dose of serum twenty-five times (e.g., Examples 142 and 143 with dose of mean ratio of 1 in 1000); but it is necessary to reach a dose 100 times higher (e.g., Examples 103, 104, 105, with a mean dose of 1 in 250) in order to see all the errors indicated and compensated for, and to save all the animals. We understand, therefore, that the data which ought to guide us in the determination of the power of a given serum should be considered in connexion with the special conditions of the infection of rabies. We were not able, therefore, to construct our scale upon experiments on one or a few animals and with the minimum dose of serum as we do for an intoxication exactly measurable by dose; but it was necessary for us to make for each serum a longer series of experiments with diverse quantities and so find some dose which would in all the series give positive results. We have ordinarily made for every weight three series of experiments, each composed of from two to five animals, trying for the canine virus the powers 1 in 25,000, 1 in 1000, and 1 in 250; for the fixed virus in the majority of cases we have tried the powers of 1 in 400, 1 in 200, and 1 in 100. The first series in which all the animals survived established the "title" of the serum under examination.

TABLE X.

| Number of register. | Weight of rabbit in kilog. | Quantity of serum injected under the skin twenty-four hours before infection. Absolute. | Quantity of serum injected under the skin twenty-four hours before infection. Relative. | Infecting units of canine virus under the dura mater. | Result of experiments. |
|---|---|---|---|---|---|
| 103 | 1·320 | 5 c.cm. | 1 : 264 | One | Lived. |
| 104 | 1·380 | | 1 : 276 | | Lived. |
| 105 | 1·190 | | 1 : 238 | | Lived. |
| 142 | 2·500 | 2 c.cm. | 1 : 1250 | One | Lived. |
| 143 | 1·970 | | 1 : 985 | | Died 22nd day. |
| 138 | 1·770 | 0·07 c.cm. | 1 : 25000 | One | |
| 139 | 1·680 | | 1 : 25000 | | Died 10th day. |

Thus, in this instance the title where the virus of rabies "da strada" is used is 1 in 250, which is rather low because the blood was taken prematurely—that is, the tenth day after vaccination. With this method of standardising some of our figures naturally may be too high to express the power of our serum, because, putting aside losses which occur to the serum in the body, as we shall demonstrate later, there is, on the one hand, required a constant result; whilst, on the other hand, the dose of the virus chosen by us for infection does not actually represent the minimum fatal one. Hence the title of the serum which by our method is established is in effect only a multiple of the least dose capable of acting against the least infection adopted. With the actual methods of vaccination we were able to obtain a serum of a power sufficient for the needs of practice, which we have taken as the unit of measurement—a species of normal serum analogous to that of Behring for diphtheria—which we shall call "typical serum" = ST. Our typical serum has the following activity. It is employed subcutaneously as a preventive twenty-four hours before the infection made with the infecting unit of the canine virus introduced under the dura mater, and is effective in the case of the rabbit in a dose 1 in 25,000—that is to say, with about

a drop and a half of serum we protect an animal weighing 2 kilogrammes. As a curative against the same virus, introduced into the sheath of the sciatic nerve diluted to twice the strength used for the subdural infection, our ST injected under the skin at the eighth day—that is, towards the middle of the period of incubation—is of value in cutting short the disease in the dose of 1 c.cm. for a rabbit, say, of two kilogrammes. Against the fixed virus by subdural infection made with one infecting unit our ST is effective at the "title" of 1 in 100—that is to say, at the dose of 10 c.cm. per kilogramme of the animal injected under the skin twenty-four hours before infection. By direct contact *in vitro* 1 c.cm. of our ST neutralises a quantity of fixed virus corresponding to 1200 infecting units; this determination *in vitro* against the fixed virus is therefore the method which we hold is the most suitable and which we commonly practise in order to standardise a given serum. Hence we shall base upon it our "protective unit," and we shall call by that name the quantity of serum capable of neutralising directly the action of an infecting unit of fixed virus. The figures set forth above, we repeat, are established by constant results, whilst even for the smaller doses, the half or the third, the positive results are always sufficiently numerous. There exists a constant relation between the various ways of establishing the power of the serum, whence it is possible, the serum being proved with one unit of virus, to deduce the dose which will be suitable for the others. The preventive dose against the canine virus is curative on the eighth day as 1 in 10; the preventive against the virus of rabies is to the preventive against the fixed virus as 1 to 200, and so forth. In like manner, if we have a serum differing from the typical serum—for example, 10 times less active $\left(\frac{ST}{10}\right)$—it will be enough to multiply or divide all the ratios by the highest power or the lowest power discovered experimentally by any of the methods of standardisation.

2.—EXAMPLES WHICH DEMONSTRATE THE IMPORTANCE OF EXACT DOSAGE OF THE VIRUS AND OF THE SERUM.

In order to give exactly the reason of the importance of the facts set forth, and to demonstrate the constant necessity of establishing a safe line of practice with which we are able in every case, without exception, to arrive with precision at the power of a given serum, we report a series of experiments in which the influence of an imperfect dose appears to be manifest. The category A of the experiment in Table XI. demonstrates how even only a fraction of the full dose of the canine virus injected is enough to kill the animal with little delay. In category B we see that against the usual injection with the fixed virus the serum is effective at 1 in 108 (Example 173); at 1 in 118 death follows with noteworthy delay (Example 163); on the other hand, with a proportion of serum considerably greater—viz., 1 in 77 (Example 158)—death comes without delay through a double infection being made. In category C we see that the serum is active at 1 in 25,000 as long as the infection is made with the infecting unit, using the dilution 1 in 50 of the canine virus. When, therefore, the infection is made with the dilution 1 in 20, which is more than twice as much concentrated, death follows without delay (Example 19); if, however, we raise the proportion of the serum as much as

TABLE XI.

| Conditions of experiment. | Number of register. | Weight of rabbit in kilogrammes. | Infecting units. | Quantity of serum injected preventitively under the skin. Absolute. | Quantity of serum injected preventitively under the skin. Relative. | Results. | Observations. |
|---|---|---|---|---|---|---|---|
| A. Excess of virus "da strada." | 89 | 1·390 | 1 | c.cm. 5 | 1 : 278 | Lived. | (1) Two trepannings were made through a reflux having been had from the first. |
| | 99 | 1·370 | 1½ | — | 1 : 274 | Died 28th day (1) | |
| | 100 | 1·430 | 1 | — | 1 : 286 | Lived. | |
| B. Excess of fixed virus. | 158 | 1·390 | 2 | c.cm. 18 | 1 : 77 | Died 8th day (1) | (1) Receives two complete infections with a day's interval. |
| | 163 | 2·360 | 1 | ,, 20 | 1 : 118 | Died 44th day | |
| | 173 | 1·620 | 1 | ,, 15 | 1 : 286 | Lived. | |
| C. Disproportion between the dose of serum and the power of the infection with the canine virus. | 35 | 1·560 | ½ | c.cm. 0062 | 1 : 25,000 | Lived. | (1) Infection with 2½ infecting units succeeds only when we increase correspondingly the quantity of serum, making it 2½ times greater. Ex. 18. |
| | 32 | 1·500 | 1 | ,, 006 | 1 : 25,000 | ,, | |
| | 34 | 1·410 | 1 | ,, 0057 | 1 : 25,000 | ,, | |
| | 19 | 2·060 | 2½ | ,, 0082 | 1 : 25,000 | Died 20th day (1) | |
| | 18 | 1·520 | 2½ | ,, 015 | 1 : 10,000 | Lived. | |

TABLE XII.

| Sheep which gives the serum. | Number of register. | Date of death. | Degree of infection and of treatment. | Reasons for failure. |
|---|---|---|---|---|
| SHEEP II. First strengthening (injection). | 42 | Thirty-sixth day. | Subdural infection with virus "da strada," 1 : 20; serum 1 : 25,000 preventively. | Imperfect serum through bad vaccination of sheep (compare Table III); as preventive with strength of 1 : 25,000 acts only against a dilution of virus at 1 : 100. |
| | 36 | Sixty-fifth day. | Sciatic infection with virus "da strada," 1 : 20; serum 1 : 10,000. Curative at eighth day. | |
| | 41 | Eighty-third day. | Subdural infection with virus "da strada," 1 : 20; serum 1 : 25,000 preventively. | |
| SHEEP II. Second strengthening. | 65 | Forty-fourth day. | Sciatic infection with virus "da strada," 1 : 20; serum 1 : 25,000 preventively. | Defect in the vaccination of the sheep (compare Table V.); as a preventive it is no use except at the degree 1 : 1000. |
| | 59 | Forty-sixth day. | Infection in the sciatic with virus "da strada," 1 : 20; serum 1 : 1,000. Curative at the eighth day. | |
| | 58 | Fifty-sixth day. | As the preceding. | |
| SHEEP I. Second strengthening. | 79 | Thirty-sixth day. | Subdural infection with virus "da strada," 1 : 20; serum 1 : 25,000 preventively. | Defect in the vaccination of the sheep (compare Table IV.) the same as preventive is uncertain at 1 : 1000, and as curative the dose would have been at least six times larger. |
| | 84 | Seventy-seventh day. | Sciatic infection with virus "da strada" 1 : 20; serum 1 : 550. Curative at the second day. | |
| SHEEP III. Vaccination. | 163 | Forty-fourth day. | Subdural infection with the fixed virus 1 : 10,000; serum 1 : 118 preventive. | Serum of the power S T, but the dose is slightly lower than that established for 1 : 100. |

that of the virus is raised, the animal survives. It is clear that if we have even a slight over-dose of the virus the action of the injected serum becomes completely masked, since the animal so treated dies; it will thus appear, as it did to us and as it has without doubt appeared to other observers, that a good protective serum has been obtained without the fact being recognised. A substantial difference has been noted between the immunity conferred by the injection of a virulent material more or less attenuated—i.e., vaccine—and the immunity conferred by the injection of serum. This last immunity soon establishes itself, but in compensation lasts only for a much more limited time than the first. This fact enters little into consideration in the case of infections which have a rapid course and which have not the faculty of remaining long latent in the organism. Rabies, from this point of view, exists under the most favourable conditions, since it can develop many months after the actual contagion takes place. It was absolutely necessary to establish whether by means of antirabic serum the malady could be for ever banished, or at any rate kept in abeyance within the time during which the immunity conferred by the serum would last. To this end we have never judged any result as being definite unless the animal has been kept under observation for a period of not less than four and even up to six months. By this system of observation we have been able to convince ourselves that when the serum is administered in sufficient quantity, in proportion to the degree of infection, the danger of a remote manifestation of rabies is completely eliminated. It is very true that some animals treated with serum have died at a period still further removed from the time of infection, but that has happened solely when the proportion between the dose of the virus and that of the injected serum was found to be incorrect. In proof of this we have consulted the entire series of our "protocols" to see what animals would have died after considerable delay, and we have gathered them all into Table XII., putting before each of them the reasons of the partial failure. There are only nine animals among a total of 300; to these we may add those treated with serum against the infection with canine virus and with the fixed virus after having found more exact methods of fixing the dose. Thus, in the earlier years, when we possessed weaker serum and did not fix the dose — either the concentration or the quantity of the virus—only exceptionally have we seen death follow at a time remote from the infection. The table demonstrates that the delay follows more frequently between a month and a half and two months after the infection and never passes beyond the third month, whence the duration of observation practised upon our animals must be held to be sufficient for the formation of a definite judgment. It is noteworthy that the animals which have presented delay in death all belong, except one, to those treated with the serum of a sheep to which was applied an unsuitable system of vaccination—it may be by excess of the dose, it may be by incomplete digestion, which we have discussed at the beginning of this article. There is, however, one animal infected with the fixed virus which has presented considerable delay in its death. It is the only one out of a hundred rabbits infected with the fixed virus and treated with our serum. This rarity is in harmony with what we previously enunciated—that is, that either the fixed virus becomes completely neutralised by the serum or that the quantities which remain, however small, are the remains of a virus so energetic that they are capable of producing death very rapidly. Example 163 does not invalidate the law, because in this case the quantity of serum injected very nearly approaches the fixed dose, so that the quantity of the fixed virus not neutralised must have become extremely small, whence the length of time demanded to produce death. And then, by this table, we are able to substantiate once again the fundamental law of serum-treatment in rabies—viz., that the virus and the serum act reciprocally to the determined dose, and that a disproportion between them leaves active a part of the virus, which produces effects as much more remote as the quantity left was smaller. With regard to the *duration of the immunity*, we are not at present able to pronounce absolutely; but from the preliminary experiments, which form part of a series of special researches upon this point and to which we shall refer specially at some future time, we are already able to infer that the strength of the immunity conferred on the rabbit, by the serum injected after the infection with the virus as well as with the serum only, is of a sufficiently long duration. For the rest, when it is demonstrated that the mechanism with which the serum acts is that of destroying the virus, and that the serum injected can become sufficient in quantity and strength to make this distinction complete by eliminating absolutely any later development of the malady, the duration of the immunity assumes a secondary importance from our point of view.

*(To be continued.)*

# ROUGH NOTES ON REMEDIES.[1]

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## No. III.

### NITRATE OF SILVER IN EPILEPSY.

I HAVE read with great interest the Manchester address and the clinical lecture on "Silver and Epilepsy" by Dr. Gowers. The former is a marvellously lucid exposition of what can at present be known of the intimate physics of life, and it penetrates further into the "mist on the horizon" than anything hitherto produced. I trust Dr. Gowers will give us another insight into the workings of his mind on this subject. If I have grasped his meaning aright, he thinks with reason that while ordinary muscular contraction is (like the heat given off in ordinary combustion) due to the force set free by the union of carbon and oxygen, which in combining have parted with some portion of their minute motion, and therefore move less rapidly when combined, the amount of energy given off is the difference between the minute motion of the compound and the minute motion of the elementary atoms. He thinks that while the burning of fuel such as coal is comparable to the ordinary contraction of muscle, the violent explosion of more highly combustible matter is comparable to the violent muscular explosion of an epileptic fit. With regard, then, to the treatment of epilepsy, it is manifest that our efforts must be directed to the removal or hindrance of this tendency to an explosive discharge in the nervous and muscular systems. Without attempting to explain how this inhibited state of the nerve centres is brought about by several remedies whose effects are fully established by abundant experience, I think I am justified in saying that some of them at any rate do their work by hindering this explosive union of atoms or molecules. One of these remedies—nitrate of silver—offers a fair field for study in this direction. I have often expressed the opinion years ago that a deposit of silver in some form, probably chloride, in the molecules or submolecules of the nerve cell and fibres so altered the polarity—i.e., the explosive tendency—of the molecules as to arrest the epileptic discharge. And now comes the more accurate and more complete interpretation of Dr. Gowers, who gives us a mental picture of what actually takes place in the action of the nervous and muscular tissues when force (minute motion) is set free. He points out that the susceptibility to nervous and muscular action needs but the influence of a stimulus—i.e., of "added motion"—to bring about a manifestation of the latent energy in these tissues, and that an increase of susceptibility or of stimulus—i.e., added motion—may evoke an epileptic explosion. It seems to me a fair inference to suppose that a remedy which is deposited in the tissues—perhaps irrevocably deposited—may by its chemical inertia interfere by its presence with the minute motion or chemical activity of adjacent atoms and thus prevent their explosive union. The solution of this question would be materially aided by an inquiry into the nature of the silver deposits. Do they exist permanently in the interior of the body as they do in the exposed parts? They doubtless do exist in some of the mucous membranes—in the mouth, for instance. Are there any changes of colour in the nerve tissues indicating an oxide of silver there? A microscopic, or chemical, or perhaps a spectroscopic, examination would help us to decide this question of silver deposit. As I know of no ascertained facts I am obliged to fall back on the old-fashioned empirical

[1] Nos. I. and II. of this series were published in THE LANCET of Feb. 25th and Nov. 4th, 1893, respectively.

resource[2]—experience. What does experience teach us as to the use of nitrate of silver in epilepsy? Experience has taught us two remarkable things—first, that nitrate of silver will cure epilepsy where the bromides have utterly failed; and, secondly, that a patient who has subjected himself or herself to a course of silver, producing a deposit, secures a remarkable immunity from a number of small nervous ailments, such as neuralgia, gastric uneasiness with nervousness, &c. I think this latter effect throws a flood of light on the subject and corroborates the view that "the silver blunts the polarity of the nerve centres," renders them stable and less easily disturbed by outward influences, which would come under the head of Dr. Gowers's "added motion." In confirmation of these statements I must produce some "facts," or my theory will fall to the ground.

I submit the following case, which is one of several, in proof of the power of nitrate of silver to cure epilepsy. Twenty years ago I was consulted by the manager of an important railway department. He had become a confirmed epileptic, suffering from frequent and severe fits. Bromides had been fully tried in large doses by several eminent physicians. Partial relief only was obtained, and that at a great sacrifice of memory and general business alertness (I sometimes wonder whether the mere postponement of fits is worth the serious detriment which the patient suffers in these respects from bromides), and the gentleman was face to face with the resignation of a valuable appointment. I plainly put before him the alternative—Did he mind the leaden tint which would certainly follow a long course of silver if he got rid of his fits? "Not a bit," said he, "it is a mere featherweight in the balance compared with my present heavy burden." So I put him on nitrate of silver for nine months. He had no fit after the first month of the course, and he has never had one since. His health has been much better—no small ailments—and he bears me no grudge. I passed him the other day, and he, as he always does, lifted his hat with a grateful smile. This is in severe contrast with Dr. Gowers's patient, who jacketed his medical attendant, but then, poor fellow, he was not cured.

Now, again, a gentleman in easy circumstances has been more or less epileptic for thirty years; he has been a prey to a number of small ailments, to which, I believe, bromide by lowering vitality largely conduces. Neuralgic headaches, muscular twitching, lassitude, frequent lapses of *petit mal*, not to speak of loss of memory and an occasional large fit, combined to render his life a burden. He deliberately accepted a course of nitrate of silver, regardless of consequences, and has since reaped his reward. He is seldom out of sorts, is comparatively free from headaches, has no twitchings, and has never had a trace of epilepsy, not even *petit mal*. I might refer to several similar cases. The above sufficiently illustrate my views. I ought to state that in this latter case the faintest touch of leaden hue was produced, and the patient was not aware of it.

With regard to the effect of nitrate of silver in minor ailments, there is no more striking illustration of it than in those cases of weak, irritable stomachs which are characterised by intense depression of spirits, apprehensions, and failure of pluck or courage. In these cases a remarkable change takes place both in the functions of the stomach and in the tone of the nerve centres of emotion. I will refer the readers of THE LANCET to an old work, "Johnson on Indigestion," which contains many illustrations of these effects of nitrate of silver. To get the best results in these "stomach cases" the nitrate should be dissolved in distilled water and taken on an empty stomach. I think one gets a distinct local effect on the mucous membrane as well as the more remote effects on the nerve centres by giving it in this form.

I fear my rough notes will stand out in rude contrast when placed beside the refined disquisition of Dr. Gowers, but this result I may claim—that I have given a practical application of his theory, and to some extent may have confirmed his speculative views.

Newcastle-on-Tyne.

[2] A post-mortem report of a patient stained with nitrate of silver is very desirable. Does it exist?

MEDICAL MAGISTRATES.—Mr. John Wm. Rowlands, L.R.C.P. Edin., L.F.P.S. Glasg., of Llanaelhaiarn, has been placed on the Commission of the Peace for the county of Carnarvon; and Mr. John M. Dennis, L.D.S., of Grimsby, has been appointed a magistrate for that borough.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### NOTES ON A PECULIAR CASE OF PUERPERAL SEPTICÆMIA.

By CHARLES H. GEOFFREY RAMSBOTTOM, M.B., B.Ch.Vict.,
LATE SENIOR RESIDENT MEDICAL OFFICER TO ST. MARY'S HOSPITAL AND TO THE MANCHESTER AND SALFORD LYING-IN-HOSPITAL.

I SHOULD like to mention a case of puerperal fever, which appears to me to have been one of pure septicæmia—that is to say, a case where the blood was a form of reservoir of toxic organisms without any absolute local manifestation whatever. The patient had been attended by a midwife, who, as no progress seemed to be made, and as, to use her own expression, she could not feel any child presenting, sent for my assistance, stating that the woman was flooding. On my arrival I found a marginal placenta prævia and delivered easily with forceps, expressed the placenta and attended to the usual antiseptic and aseptic precautions. The patient progressed favourably until the third day, when she had a rigor (102·5° F.). I washed out the uterus with a 1 in 2000 solution of perchloride of mercury and gave her quinine. The next day she seemed all right. There was nothing retained in utero. The following day, however, she had another rigor (103°). I repeated the previous treatment, and on the next morning the temperature had fallen to 101°, when I again washed out the uterine cavity with perchloride solution; but in the evening the temperature again rose to 103°. I then ordered quinine regularly, douched her myself twice daily, and prescribed milk, meat juice, eggs, and stimulants for diet. I noticed her right leg was swelling, and consequently this was wrapped in cotton wool (fifth day from her delivery). The following morning the temperature was 103° and rose to 104° in the evening, the pulse being 130. The temperature ranged from 103° to 105° from Oct. 22nd to Nov. 16th (twenty-four days), and was oftener at 104° than otherwise during this long period; on one occasion the temperature was 106° and on another 106·5°. The pulse varied with the temperature, from 110 to 130 per minute, and yet throughout all this period her respirations were seldom exaggerated. The tongue was moist and consequently she took large quantities of fluid nourishment, stimulants, and quinine, until she became quite deaf. She never became delirious, never complained of pain, except a little headache in the evening and also when her temperature became hyperpyretic, on which occasions she complained of feeling a great oppression in the chest and expressed the belief that she was dying. During the whole time she perspired profusely, and although she had cold packs, quinine, salicylate of soda, antifebrin, Dover's powder, uterine douches of perchloride of mercury, carbolic, and uterine insufflations of iodoform, no definite impression could be made on the febrile condition. On Nov. 17th, a calendar month from the date of her delivery, her temperature became 102°, and on the following morning 101·5°, and then on the same evening it rose again to 103°, and she developed a cough with expectoration; she complained of pains, the first she had noticed during the long illness, in her chest, and began to expectorate a frothy rusty sputum, and on auscultation I detected fine râles and roughened breath sounds, but no definite dulness. She rapidly became worse and died, exhibiting the Cheyne-Stokes respiration.

The interesting features of this case appear to me to be that the onset was severe and almost from the first the blood seemed to become toxic, and that there seemed to be a struggle between micro-organisms and the human organism, whether lymph cells or otherwise, for supremacy; moreover the reason of the high temperature for so long a period and the comparative ease of the patient and the readiness for imbibition of nutriment may be accounted for a little, perhaps, by the free action of the skin and her fixed determination to get better, as throughout she struggled bravely to recover. Another curious point is that from the leg beginning to swell—it was exactly like a condition of

phlegmasia dolens—she had no pain in it whatever. On the whole it was, in my opinion, a rather remarkable case of puerperal septicæmia.

Granby Fields, Queensbury, Bradford, Yorks.

## COMPLETE TRANSVERSE FRACTURE OF THE HUMERUS BY MUSCULAR ACTION.

By GEORGE T. WILKINSON, L.R.C.P. EDIN., L.R.C.S. IREL.

A CASE of the above kind is, I think, of sufficient rarity and interest to merit reporting. On Aug. 3rd last a youth aged sixteen years, one of twins, but differing from his brother in being much taller and more robust and muscular, in fact, being a youth possessing physical development above the average, was brought to my surgery complaining of pain in, and inability to move, his right arm. On examination I found a complete transverse fracture of the humerus below the insertion of the deltoid. He informed me that being sent to turn in a horse which was out on grass he threw a stone at the animal, and after the missile had left his hand he felt a sudden severe pain and lost all power in his arm. The fracture united well and rapidly.

Cloughton, Scarborough.

## SPONTANEOUS ANEURYSM OF THE BRACHIAL ARTERY SUCCESSFULLY TREATED BY PROXIMAL LIGATURE.

By FREDERICK PAGE, M.D. EDIN.

A MAN aged thirty-one years, with very extensive aortic disease, showed me in August, 1894, an aneurysm of the brachial artery about the size of a hen's egg at the bend of the left elbow. It arose without any injury, and had been noticed only for a few weeks. It was increasing in size, and causing so much pain that the arm was useless to him. Twelve years ago, wishing to enter a benefit society, he was rejected on account of heart disease. A year after this he contracted a venereal sore on the penis, but no constitutional symptoms followed, and he was not treated for syphilis. The artery was tied a little above the joint with a catgut ligature. No difficulty arose from the chloroform. The wound healed by first intention. Now, a year after operation, there is no trace of the aneurysm, and the patient says his left is the better arm. Spontaneous aneurysm of the brachial artery is rare and not always successfully treated by proximal ligature. For these reasons I think the case is worth recording.

Newcastle-upon-Tyne.

## CASE OF ORBITAL SARCOMA IN A CHILD.

By W. M. BEAUMONT, M.R.C.S. ENG.

A GIRL aged ten years came to the Bath Eye Infirmary on Sept. 17th, 1893, complaining of a red, hard, new growth of one month's duration in the ocular conjunctiva. It was situated at the inner commissure of the right eye and had the appearance of a small cock's-comb, which showed between the lids when they were closed. It was apparently quite superficial and was easily removed. Under the microscope it had the structure of a simple polypus, small bloodvessels and cells lying in a matrix of connective tissue, and it was not pigmented. It was considered innocent and the patient returned home. She came back six months later (April 2nd, 1894) with a large recurrence in the same situation, but involving the upper lid. Chloroform was administered, and the growth, together with the inner half of the tarsal cartilage, excised; the globe was quite free and the conjunctiva and orbital cellular tissue were alone affected. On examination the tumour was found to be soft and friable, and under the microscope its structure was highly suspicious of malignancy. The wound, however, healed satisfactorily, and she had no pain. She returned home again well, but the distance from Bath prevented the possibility of watching her constantly. On June 3rd she came back again with a recurrence, which filled the orbit and proptosed the eye. There was still no pain, and the eye, though immovably fixed, was not involved in the growth. Chloroform was administered and the eye removed; the orbit was exenterated, the whole of the cellular tissue being infiltrated with the soft neoplasm as far back as the sphenoidal fissure. The tumour was about three times the size of the globe, but there was not much loss of blood in removing it. If there had been any doubt from the clinical symptoms the microscope now clearly showed the characteristics of a round-celled sarcoma. Gradually the growth reappeared until there was a tumour as big as her fist outside the patient's orbit; it then became stationary and began to slough. She died exhausted, but without having suffered much pain, on Sept. 23rd, 1894. It is not always that one is able, as in this case, to watch the life-history of tumours from their innocent infancy to their malignant maturity. It has long been recognised that growths may remain quiescent for long periods and then, volcano-like, burst suddenly into fury without any explainable reason. In the case described above it would seem almost as though the operation were the cause of the change in the character of the tumour, and that by it a fatal traumatic malignancy was started.

Bath.

# A Mirror
## OF
# HOSPITAL PRACTICE,
## BRITISH AND FOREIGN.

**Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.**—MORGAGNI *De Sed. et Caus. Morb.* lib. iv. Proœmium.

## KENSINGTON INFIRMARY.

### A CASE OF CONGENITAL ABSENCE OF THE RECTUM; NECROPSY.

(Under the care of Mr. W. M. WOODHOUSE, Senior Assistant Medical Officer.)

FROM time to time reports of cases of imperforate anus and partial development of the rectum have appeared in the medical journals, but a considerable period has elapsed since a case of complete absence of the rectum has been recorded. It is also noteworthy that in this instance the malformation escaped notice for three days. The exact condition here described cannot usually be recognised until an incision has been made at the site of the anus in the hope of reaching the bowel. The type of pelvis found at the post-mortem examination is that which is commonly seen when the rectum is absent. The following are the details of the case.

A woman aged thirty years was admitted into the Kensington Infirmary three days after the birth of her first child—a male. The mother, a thin, weakly looking woman with a bad family history of phthisis, stated that her child had been constantly sick since six hours after birth, when she first nursed him, and although abundant urine had been passed the bowels had never acted. A purgative powder, obtained from a local druggist, had been administered without effect. On examination shortly after admission Mr. Woodhouse found that the child was thin and puny, repeatedly crying out and exhibiting evident symptoms of pain. The abdomen was much distended and tympanitic. The anus was absent, nor was there any evidence of its presence in the normal situation beyond a slight depression close to the median raphé. There was no impulse or bulging in the perineum when the child cried. It was decided to at once make an attempt to relieve the child and establish patency of the rectum, which it was thought would probably be within a short distance of the surface. The patient having been placed under chloroform, Mr. Woodhouse made an incision an inch long in the middle line in the normal situation of the anus, cutting upwards and backwards, and keeping close to the sacrum. From time to time the little finger was introduced into the wound, but nothing indicating gut could be felt, even at the depth of an inch and three-quarters. He then proposed to perform inguinal colotomy, but the anæsthetist considered it inadvisable to continue the chloroform owing to the exhausted

condition of the patient. The wound was then dressed with boracic acid powder and salicylic wool. The patient gradually became weaker and succumbed five hours after the operation. The post-mortem examination revealed the fact that the intestines were much distended, but otherwise normal, until a point was reached close to the brim of the pelvis in the left iliac fossa, when the sigmoid flexure abruptly terminated in a cul-de-sac. The peritoneum was intact and showed no signs of peritonitis. All the other pelvic organs were normal. The pelvis itself was smaller than usual and the tuberosities of the ischium much closer together.

*Remark.*—No similar case has occurred in nearly 2000 births in this infirmary, and only one case of imperforate anus is recorded.

## ROCHDALE INFIRMARY.

### A CASE OF HYDROPHOBIA.

(Under the care of Mr. R. B. SELLERS.)

IT is, we think, important to publish from time to time the account of a case of hydrophobia, if only to remind members of the profession of the symptoms of the disease and its hopeless nature when it has developed. Rabies in dogs in this country is by no means stamped out; in fact, during last year there was a very considerable increase in the number of animals affected. During the six years 1889–1894 the numbers were 312, 129, 79, 38, 93, and 248 respectively. The preventive treatment of Pasteur is at present the only one in which any reliance can be placed; and although it may be commenced any time after the bite before the symptoms develop the patient's chances are much improved if it is carried out early. We have not space to enter into the statistics of patients treated by this method; thousands have now been submitted to it; but we would remind our readers that, instead of a mortality of 15 per cent., which follows the bites of animals supposed to have been rabid, under any other method of treatment, Pasteur's plan of preventive inoculation has reduced the mortality to 0·92 per cent., and this amongst patients bitten by animals certified to have been rabid. For the notes of this case we are indebted to Mr. W. E. Davies, resident medical officer of the Infirmary.

On Monday, Sept. 2nd last, at 10.15 P.M., a youth aged seventeen was admitted to the Rochdale Infirmary suffering from hydrophobia, to which he succumbed on Tuesday, Sept. 3rd, at 3.40 P.M. From evidence given at the inquest it appears that the patient was bitten by dogs on two different occasions. The first bite was inflicted on his leg at some indefinite date more than twelve months ago. The second bite was inflicted on May 3rd of this year. On the latter occasion he was bitten on the proximal phalanx of the middle finger of his right hand. The hand was put into a strong solution of salt and hot water, but not cauterised until two hours and a half later, when he was attended to by Mr. Lord of Castleton. The dog was destroyed on the same day, having bitten another man just before it was poisoned. It was not believed to be rabid, but was done away with in order to prevent it from biting children. No bad symptoms set in until Sept. 2nd. The boy complained occasionally of stiffness and pain in his right arm, these being attributed to playing cricket. From the evidence given he did not seem to trouble about the bite after the wound healed. On Monday, Sept. 2nd, he went to wash himself during the afternoon and appeared to be suddenly seized with a kind of spasm, jumped back from the water at once, and walked into the house. He made no remark, and no further notice was taken until he sat down to tea at 5 P.M. He then had great difficulty in taking any liquid and could only take sips. He was advised to see a medical man and went to Mr. Lord, who ordered him to bed and then arranged to bring him to the infirmary. On admission Mr. Lord gave a brief history of the bite, and the patient was not questioned. Mr. Lord refrained from mentioning his fears to the boy and from questioning him about the dog-bite, but telegraphed for the parents. No signs of inflammation were noticed about the finger, and the patient made no complaints about it. The youth, who was tall, thin, pale, and with an anxious expression, complained of attacks of spasm, with difficulty in breathing, whenever he attempted to take a drink. On being offered a little milk in a cup he took the cup to make an effort, and then shrank away from it with horror and begged not to be forced to take it. He offered to take a little from a feather, as he was very thirsty. When asked why he would not drink he explained that attempts at drinking brought on attacks of spasm with difficult breathing. He was placed in an isolation ward, and half a grain of morphia was injected subcutaneously into his arm. He had a very restless night, no sleep, complained of great thirst, and took drops of water from a camel-hair brush, making sharp efforts each time he took a drop. Even these drops brought on a spasm in his throat occasionally. All the muscles of the neck were then hard. He made several attempts to get up and asked for his clothes in the early morning, said he was going to Paris and talked wildly of dog-bites, although all care had been taken not to mention such things in his hearing. During the night he had periods during which he was maniacal. At 8.30 A.M. on Sept. 3rd he became furious and jumped on one of the nurses when she happened to turn her back for a minute, but did not do her any injury beyond pinching her severely. A strait-waistcoat was then put on, and half a grain of morphia repeated. He took a great dislike to the nurse above mentioned, but allowed the night nurse to go near him and give him water by means of the brush. He bid others keep away and said that though he had no wish to hurt anyone he could not help himself if they came near. At 10 A.M. Dr. March, Mr. Pooley, and Mr. Sellers, three of the honorary surgeons, saw the patient, held a consultation, and agreed with the diagnosis made. At this time the muscles of the neck were rigid, both sterno-mastoids being prominent. His appearance was wild and he talked incessantly, though there were intervals during which he was less excited. A handkerchief was waved casually in front of him, but he objected and gasped for breath. He begged for the proceeding not to be repeated. He still talked of Paris. He recognised one of the surgeons, to whom he delivered a telegram at some period, and knew one person from another quite well. His room was kept dark and everything as quiet as he himself would permit. His temperature was 103° F. and the pulse 120. At the consultation Mr. Sellers suggested subcutaneous injections of conia. Accordingly it was decided to push the conia until its physiological action was produced, the object being to paralyse the muscles. Three minims of a solution of conia with rectified spirit and water (strength 1 in 6) were injected hypodermically at 10.15 A.M., 11 A.M., 12 noon, and 1 P.M., and four minims at 2 P.M., but no effect appeared to be produced. The temperature at 1 P.M. was 103·4°. During this time he continued his excited conversation about dogs and Paris, had illusions, said he could see his pet dog through the door, and begged that it might be allowed to come in so that he could kiss it. He had no sleep, but the spasms were few. The muscles of the neck continued rigid, but not always of the same tension. At 2.30 P.M. he again became very boisterous, kicked all the clothes off, and tried to kick the attendants. He expectorated a great deal of frothy mucus all over the room and at his attendants. His lower limbs had to be fastened to the bed to keep him in. His pulse was rapid and weak. One-third of a grain of morphia was injected hypodermically. At 3 P.M. he became quiet, and mucus collected in his throat. An attempt to remove this brought on a spasm, and the patient gasped for breath. He gradually passed into a state of coma and died at 3.40 P.M. from exhaustion and asphyxia.

*Remark by* Mr. SELLERS.—I cannot but regret that the conia was not at hand when the boy was admitted.

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THE Medico-Psychological Association of Great Britain and Ireland announce that the next examination for their certificate in nursing and attending on the insane will be held on Nov. 4th, and that Monday, Oct. 7th, will be the last day for the entry of candidates' names. The Registrar (Dr. Spence, Burntwood Asylum, near Lichfield) will supply schedules, which should be filled up, signed, and returned to him at least four weeks before the date of examination.

TORQUAY MEDICAL SOCIETY.—On Friday, Oct. 4th, at 5 P.M., Mr. Hutchinson, F.R.S., will deliver an address to the above society on Heredity in Disease, in the Clarence and Avondale Institute (adjoining the Albert Hall). Members of the profession outside the Torquay district will be welcome on giving notice beforehand to Mr. G. Young Eales (honorary secretary), 7, Portland-place, Torquay, of their intention to be present. The annual dinner will be held in the Albert Hall after the meeting.

# Reviews and Notices of Books.

*The Climates and Baths of Great Britain.* Being the Report of a Committee of the Royal Medical and Chirurgical Society of London. W. M. ORD, M.D. Lond., Chairman; A. E. GARROD, M.D. Oxon., Hon. Secretary. Vol. I., The Climates of the South of England and the Chief Medicinal Springs of Great Britain. London and New York: Macmillan and Co. 1895.

IT has, as everybody knows, become more and more the practice of persons under circumstances of health and disease—pleasure-seekers and health-seekers alike—to have recourse to the advantages, real and supposed, of change of climate. There is no subject on which members of the medical profession have more frequently to originate a recommendation in this respect, or about which they are more often appealed to by their patients for advice and suggestions. The amount of information of a more or less reliable—and sometimes, if the truth be spoken, of a very little reliable—character, that is scattered throughout various guide-books, pamphlets, and publications is no doubt considerable, but it is not always readily accessible, and when obtained, it may be added, is very often not of the kind that is required. It is not the precise, systematised, scientific information which is needed, nor are all the necessary data given on which to form a correct judgment as to the relative merits of different places so as to guide us in the selection of one of them as specially or best adapted for the purpose in hand. The Council of the Royal Medical and Chirurgical Society initiated, therefore, a really useful and important movement when in 1889 it resolved that "a scientific committee be appointed for the purpose of investigating questions of importance in reference to the climatology and balneology of Great Britain and Ireland, and to report thereon to the Council from time to time." The outcome of the labours of the committee in this direction, so far as they have at present gone, is the admirable volume now published. We do not think that we could do better than recapitulate some of the facts recorded in the preface as to the constitution of the committee and the nature and scope of their investigations, for they afford a guarantee of the recognised ability of the writers to conduct an inquiry of this nature and of the systematic and scientific methods on which they have tried to carry it out. As at first constituted the committee consisted of Dr. Ord (chairman), Dr. Ballard, Dr. Mitchell Bruce, Dr. Dickinson, Dr. Murrell, Dr. Frederick Taylor, Mr. Treves, Dr. Symes Thompson, and Dr. Herman Weber. Of these Dr. Ballard and Mr. Treves were unfortunately unable to serve. The following names were subsequently added to the committee: Dr. Ewart, Dr. Theodore Williams, Dr. Penrose, Dr. Norman Moore, Dr. Barnes, Dr. F. Roberts, Dr. Cheadle, Mr. Malcolm Morris, Dr. Maguire, Dr. Lazarus-Barlow, and Dr. A. E. Garrod, who was appointed to act as honorary secretary.

After instituting some inquiries of a general character the committee formulated letters to be addressed to medical men practising in the more important climatic resorts and bath-places, and prepared a form of inquiry for those connected with the smaller spas. In addition to the information obtained in this way certain members of the committee were deputed to make a personal investigation of the districts having important climatic value, and of the several bath-places. In both aspects, of course, a thorough appreciation and use of published and recognised meteorological reports was indispensable, and the investigators have for this purpose had recourse to the reports of the Meteorological Office and of the Royal Meteorological Society. Dr. Theodore Williams, a late President of the Royal Meteorological Society, was, it will be noted, a member of the committee. The present volume, which is the first report, gives the results of three lines of investigation—viz., the information received from medical men practising in the various localities, the results of the personal investigations to which we have referred, and the results of various statistical analyses of the several localities which were considered. In climatology are included the results of inquiry into the relative prevalence of health and disease and the influence of the climate on these in the several districts. The inquiries into climatology, so far, have mainly related to the south coast of England from the Land's End to the North Foreland.

The volume, which is an excellent and reliable handbook of reference, is not one that easily lends itself to the purposes of review as ordinarily understood, nor would extracts from it, if confined within any reasonable limits, afford any adequate idea of its nature and contents. We must be content, therefore, to give our readers in a more or less general way the impressions we have derived of its character and value, in addition to the information which we have summarised from the prefatory remarks to the volume itself. It contains, in the first place, a good map illustrative of the climates and baths of Great Britain, a coloured chart showing the annual death-rate per 100,000 persons in Brighton for twenty-two years, and numerous meteorological and statistical tables of a very useful kind are interspersed throughout the text.

We may briefly refer to some of the contributions to the volume and their authors. Dr. Ord is the writer of some excellent introductory remarks on the climates of the South Coast of England and on the medical springs of Great Britain, as well as of the reports—written in conjunction with Dr. Garrod in both cases—of the medicinal springs of Bath and Buxton. Dr. W. H. Dickinson treats of the climate of Cornwall, Dr. Symes Thompson and Dr. Lazarus-Barlow of that of Devonshire and the Channel Islands, Dr. Mitchell Bruce of Somerset, Dr. William Ewart of the South-Eastern Counties and Surrey, Mr. Malcolm Morris and Dr. Penrose of the springs of Harrogate and Strathpeffer, Dr. Garrod of Matlock, Bakewell and Stoney Middleton, Droitwich and Leamington, Dr. Robert Barnes of Woodhall Spa, Mr. Malcolm Morris of Moffat, and Dr. Frederick Roberts of the medicinal springs of Wales.

The line of treatment generally adopted by the contributors to the volume deals with such points as the following:—The general, physical, geological, and topographical characters and climatology of the county or district and the sea temperature; and then the characters of the several towns and districts are taken up and described separately with reference to the vital statistics and the prevailing diseases, and more especially with reference to the several classes of disease for the cure, treatment, or amelioration of which these are adapted. Regarding the climatology, the medical history, and the advantages which a locality offers, the data and observations are very pertinent as well as sufficiently exhaustive without being too redundant and consequently confusing. The information has been carefully analysed and condensed and has been arranged in such a way as to afford facility of reference, and—a great point in a work of this kind—the contents are well indexed. In reviewing this volume we have selected several districts and places more or less well known to us, and have been much gratified with the results of our study of the medical climatology and medical history which is given of them, and especially with the spirit of impartiality and discrimination with which the materials have been selected and commented upon. In addition to change of scene a certain class of invalids needs a restful contemplation of nature remote from "trippers," while others want only sunshine, invigorating air, and sea breezes, and nearly

all are benefited by escaping from the dirt and turmoil of towns and by being able to live in the open air. The volume is, in our opinion, an excellent book of a very useful and practical kind, which was much needed by the medical profession and for which they will be very thankful to the committee of the Royal Medical and Chirurgical Society of London. The task imposed upon them was a laborious one, and the members of the committee have fulfilled it with honesty and ability.

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*The Causes and Treatment of Lateral Curvature of the Spine.* By RICHARD BARWELL, F.R.C.S.Eng., Consulting Surgeon to Charing-cross Hospital. Fifth Edition, revised. London: Macmillan and Co. 1895. Pp. 216. Price 6*s*.

THE treatment of lateral curvature of the spine has for many years been the subject of great divergence of opinion. There are some who look to mechanical support for a cure of this condition. Elaborate contrivances of bands, bars, straps, and springs attempt to "support" the patient's body and to force back the displaced bones into their normal position; yet, by depriving the muscles of all inducement to act, they lead to their further wasting and an increase of the feebleness and the curvature, which the machine was intended to correct. Though occasionally one still meets with a patient encumbered with one of these "supports," fortunately these methods are now but rarely used, as a more correct and scientific knowledge of the pathology has led to a wiser and more successful treatment. The wasted muscles are encouraged to take up once more the function, so long in abeyance, of supporting the spinal column, the relaxed ligaments are strengthened, and those which have become contracted owing to the malposition are gently stretched to their former length. At first, when the reaction commenced against the "mechanical" treatment, recourse was had to simple gymnastic exercises; but those then employed were found to be inadequate to remove the curvature already produced, though they were of value in strengthening the enfeebled muscles and in preventing further curvature. More systematic methods were developed later, and the results now attainable far surpass those formerly achieved; but the treatment must be carefully applied. We welcome, therefore, the reappearance, in what is almost a new form, of Mr. Barwell's work on Lateral Curvature of the Spine, as in it the important question of treatment is fully dealt with. The book contains an account of the various causes leading to lateral curvature, the diagnosis of the condition is amply gone into, and the author describes his "scoliometer"—an instrument by which smaller deviations from the normal can be detected than are recognisable without its aid. The chapters on treatment are satisfactory, and are illustrated by a number of engravings of patients showing the effect of the treatment; these have been prepared from photographs and illustrate well the deformity present. In an appendix are placed some chapters on the Anatomy and Pathology of the Spine. The whole volume may confidently be accepted as a careful treatise on a difficult subject.

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*The Climates of the Geological Past and their Relation to the Evolution of the Sun.* By M. EUGÈNE DUBOIS. London: Swan Sonnenschein and Co. 1895. Price 3*s*. 6*d*.

THIS is a well-written little book on an interesting topic. It consists of a brief review of what is known of the climates of past ages according to palæontological and geological data, and also a series of arguments to prove that these changes have been due essentially to changes in the solar heat. The writer shows that while no fixed relation can be shown to exist between the climate and the character of the organic world—thus, identity of climate does not carry with it identity of vegetable and animal life, and *vice versâ*—yet the data of palæontology when cautiously interpreted are of great value in throwing light upon the climates of past times. These data are of the greater value the more recent the period whence they are obtained. The various climates of geology are passed in review. It is shown to be probable that there was a general greater equality of climatic condition in the past than now. Proofs are given that the fossil Arctic flora could only have originated in a warm climate. A mild climate is shown to have been a necessity for the coal flora. M. Dubois examines at length the well-known hypothesis that the differences between the climates of past geological ages and of the present time were due to a displacement of the poles. Very slight displacements of the poles are known to occur, but the author is entirely opposed to the view that such displacements are in any way adequate to produce the phenomena in question. We cannot reproduce his arguments, but we may quote the following passage: "Should astronomers and physicists raise no objections to a considerable displacement of the poles, the facts observed with regard to the Arctic vegetation of the Tertiary period still offer sufficient arguments against such a supposition. The displacement of the earth's axis and of the poles, if any have taken place at all in early periods, can have been but trifling, for the climatic distribution of organisms during those periods which we have been able to examine in this respect corresponds with zones which concentrically surround the present poles." The author proceeds to state the many cogent reasons which point to alterations in the solar heat as the efficient cause of the variations of climate in past geological ages. The book is well worth reading.

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## LIBRARY TABLE.

*The Veterinarian.*—The July and August number of the *Veterinarian* are both of considerable interest, not only to veterinary surgeons, but also to those interested indirectly in diseases of animals. A new feature in the July number is the use of photo mechanical blocks in illustration of various pathological and clinical cases; some of these illustrative blocks add greatly to the interest of the papers. The first paper is a "Case of Diseased Prostate in a Dog," by R. H. Clarke, M.A., M.B., M.R.C.S., and is well illustrated with naked-eye and microscopical specimens. Mr. Hutton records "The Great Outbreak of Anthrax in North Devon." The paper on Red-water Disease in Cattle is concluded, and suggested means of controlling the disease are given, the principle of which seems to be founded on the supposition that ticks are the carriers of infective material from animal to animal, and the author states that in his opinion the most satisfactory and effectual way of dealing with the ticks is to burn off the grass on the whole of the run, which would not only eliminate numbers of ticks, but destroy other parasites which spend part of their life history on the ground; protection from overheating from the direct rays of the sun is also recommended, whilst the carcases of cattle that die should wherever possible be destroyed by fire. A number of clinical cases are recorded, and a number of abstracted notes and science jottings make up a very readable number for July. In the August number is a paper on the Determination and Regulation of Sex in the Breeding of Horses, which is of interest to medical as well as to veterinary readers, as is also a paper on the Results of Tuberculin Test in a large Dairy Herd, from which out of 95 cows 71 were found to be tuberculous, 20 were sound, and 4 were doubtful, giving a percentage of 74 affected. It is interesting to note that of these 71 tuberculous cows most of the "suspects" were disposed of in the public markets, their future history being lost. It seems to be almost incredible that such disposal

should still be legal. The abstracts are again of considerable interest. The meetings of the various veterinary societies are reported in a separate supplement, as the new system has been found to work very well.

*The Veterinary Journal and Annals of Comparative Pathology.*—In the July number Professor Fraser's communication to the Royal Society of Edinburgh on the Rendering of Animals Immune against the Venom of the Cobra and other Serpents, and on the Antidotal Properties of the Blood Serum of the Immunised Animals is reprinted. An "Essay on Anæsthesia," by Mr. T. K. Mulcahy, is commenced in the July number and continued in the August number; whilst this is followed by a note on "The Early Days of Anæsthetics in Veterinary Surgery—a Retrospect," by Mr. E. Wallace Hoare. A number of clinical cases and cases in practice conclude the July number with the exception of the accounts of the various Veterinary Associations and a number of extracts and notes from foreign and other journals. In the August number the chief papers are one on Texas Fever by Principal Williams and an abstract of Professor Fraser's second paper entitled "Further Observations on Antivenene and on the Production of Immunity against Serpents' Venom; with an account of the antidotal properties of the blood-serum of venomous serpents." Cases in Practice, Legal News, Notes and Abstracts, make up a very interesting number.

*The Elements of Botany.* By FRANCIS DARWIN, M.A., M.B., F.R.S. (London: C. J. Clay and Sons and H. K. Lewis. 6*s.*)—This little volume contains the substance of the course of lectures on botany given to medical students at Cambridge, and is as far as possible meant to meet the requirements of the first examination for the M.B. degree at that University. The plan of the book is to teach general principles and illustrate them by suitable examples, those being chosen as far as possible which fit in with the object of the book. In this way, the general principles being learnt, the student can apply them to other examples which cannot be included in this work, and so further extend his knowledge. One of the most valuable parts of this work is the appendix, which gives directions for a course of practical work to illustrate the previous chapters. The book is well printed, easy to read, and the diagrams are clear; it should prove a valuable work for those commencing the subject.

*A Handbook of Systematic Botany.* By Dr. E. WARMING, with a revision of the Fungi by Dr. E. KNOBLAUCH. Translated and edited by M. C. POTTER, M.A., F.L.S. (London: Swan Sonnenschein and Co. New York: Macmillan and Co. 1895. 15*s.*)—This book is a translation taken partly from the text of the third Danish edition of Dr. Warming's work and also from Dr. Knoblauch's German edition of that work. It consists of a very complete systematic classification of plants with all their principal characteristics. The plan of the classification is arranged as far as possible according to the natural relations which the different orders bear to each other, and throughout the book these relationships are from time to time brought up by pointing out the links by which one order passes into another and by various comparisons, and so any disjointedness between the different sections is prevented. There is a short reference to the works of Hoffmeister and others, which serves to make clear the connexion between cryptogams and phanerogams. The fungi are classified according to the recent work of Brefeld and are divided into phycomycetes (algal fungi), mesomycetes, and myomycetes (higher fungi), each of these having their subdivisions and varieties. The bacteria have been revised by Dr. Migula, and those which are pathogenic to human beings are pointed out, with short references to the diseases which they may cause. There is an interesting appendix to the book in which many examples of artificial classification are given which have been formed by botanists at different periods, and that of Hooker and Bentham is very fully given. It is a book well worth reading and is well printed and illustrated.

*Dod's Parliamentary Companion.* Second Edition. London: Whittaker and Co., White Hart-street, E.C. 1895. Price 4*s.* 6*d.*—The election of a Parliament in which 188 new Members were returned makes us welcome the publication of the second edition for 1895 of this useful little book of reference. We do not think we can pay any better tribute to its value than by confessing that a glance at its pages has supplied certain items of knowledge with which we might, perhaps, have been supposed to be familar, but which have hitherto escaped us. We have always been puzzled as to the medical qualifications of the honourable Member for the Tullamore division of King's County (Dr. J. F. Fox), and in giving our list of medical M.P.'s had to acknowledge our inability to describe his qualifications. But Dod says he "took the degree of M.D. at the University of Cincinnati. Is an F.R.C.P. and S. of Kingston, Canada, and has practised medicine and surgery at Troy, New York State." We also find duly recorded the fact that the member for the Eastern Division of Norfolk (Mr. R. J. Price, whose name was omitted in our list) is an M.R.C.S., 1876, though he subsequently, like the present Solicitor-General, Sir R. B. Finlay, Q.C. (whose M.D.Edin., 1863, is also *en évidence*) became a barrister.

*Herbal Simples.* By W. T. FERNIE, M.D.Durh. Bristol: John Wright and Co. 1895. Price 5*s.*—We are told that the object of this book is to revive or retain the use of such simple herbs as are common amongst us and have been proved to be of medicinal value, and so it is recommended to the public in emergency and to the practitioner "when his customary medicines seem to be out of place or beyond reach." As an historical review of the use of many of these drugs the book is interesting and shows a large amount of knowledge and research on the part of the author; but much of it can scarcely be taken for serious use at the present day, for good as many of their actions may be we fail to see their superiority over those in use. The author believes largely in the law of similarity, which is carried to absurdity when in speaking of sundew he says: "The sundew when given experimentally to cats has been found to stud the lungs with true tubercular matter. ..... Meantime, it has been well demonstrated that at the onset of pulmonary consumption in the human subject a cure may nearly always be brought about, or the symptoms materially improved by giving the tincture of sundew throughout several weeks." We are also told that parsley, especially when uncooked, is liable to bring on epilepsy, but that it has been given with signal success in an inveterate case of that disease: indeed, the book abounds in such legends.

*Wintering in Egypt.* By ARTHUR J. M. BENTLEY, M.D. Edin., and Rev. C. G. GRINFFINHOOFE, M.A. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1894.—This small handbook, which is very well illustrated with plates from photographs, is divided into two parts—one entitled "Under the Shadow of the Pyramids," the other "Hints to Invalids." It is popularly and pleasantly written, and gives a good deal of useful information of various kinds about a country which is full of interest, together with some helpful advice and hints to invalids and others as to their personal hygiene and the maintenance of their health in Egypt. The remarks as to the cases that are and that are not suitable for wintering in that country, the nature of its climate, and the dangers occasionally arising from chills, are sound and judicious. For the intelligent tourist and for suitably selected cases it goes without saying there is no more delightful or health-restoring place in the world than Egypt during the winter.

*Bread, Bakehouses, and Bacteria.* By F. J. WALDO, M.D. Cantab., medical officer of health to St. George's Hospital, Southwark, and to the Inner and Middle Temple; and DAVID WALSH, M.B., C.M. Edin. London: Baillière, Tindall, and Cox. 1895.—This volume is a reprint of five articles already published (one of them in THE LANCET, Oct. 20th, 1894), with the addition of reports of police-court proceedings against insanitary bakehouses, containing some very unpleasant details. The authors' experiments show that the heat required for baking does not invariably sterilise dough, as micro-organisms can often be cultivated from the centre of loaves within a few hours of their being taken from the oven.

*Pocket Therapeutic Notes.* Second Edition. Bristol: Ferris and Co. 1894.—This small volume of about 300 pages is a very useful and well-stored handbook of the more recent and energetic additions to the materia medica. Considering the number and variety of such preparations, there are few practitioners who do not find themselves occasionally in need of such a comprehensive book of reference as this. There is an appendix containing the fluid extracts of the United States Pharmacopœia and more than 160 formulæ of pills. Prices of the various drugs and preparations are appended.

## MAGAZINES.

The September number of the *Practitioner* shows signs of the languor which pervades most periodical literature about this time of the year; still this magazine is never without one or two, at least, interesting pages. In an editorial note a suggestion is made that there ought to be a medical party in the House of Commons who would sink all political differences in order to "act together in safeguarding the public health." This is a most admirable suggestion, and one which we hope may soon assume reality. The Medico-Literary Causerie deals with Dr. Withington's "History of Medicine," which was recently reviewed in our columns. Mr. George Heaton has a good paper on the Symptoms and Treatment of Infective Disease of the Cerebral Sinuses, and there is a number of interesting notes from foreign journals.

The *Twentieth Century* for August has a thoughtful and suggestive article on Certain Bogus Insurances, condemning the anomalous system under which vendors of useless medicines and medical or surgical appliances are at full liberty to delude the public with mendacious advertisements. The law in this particular no doubt requires to be altered and amended with a view to the protection of the ignorant and unwary, for, as the writer of the paper remarks, sufferers may by such specious inducements be dissuaded from seeking proper advice during the initial period of disease, when professional skill has the best chance of giving relief. He might also have mentioned that the State is not free from complicity in the deception, for the Government stamp and the designation "patent medicine" no doubt encourage credulous purchasers in believing that advertised nostrums really possess the qualities claimed for them.

In the current number of the *Asclepiad* the principal articles are a memoir (with portrait) of John Abernethy and an essay on Cycling and Heart Disease. Sir Benjamin Ward Richardson continues the narrative of his researches in nervous matter and describes a new observation on the reproduction of forms by various electrified powders, of which bone-dust yields the best results.

A CORRESPONDENT having written to the Home Secretary calling his attention to the large number of deaths which have occurred in the past few months from lamp explosions has received the following answer:—"I am certainly favourable to the reappointment of a Select Committee on these dangerous oils and lamps, and hope it may be found practicable to start it again next session. Legislation, without the advice of the committee, is, I think, in this case well nigh impossible."

# New Inventions.

## THE AREMA VAPORISER.

THE treatment of phthisis by atmospheric medication and the inhalation of antiseptic vapours has for several years engaged the attention of Dr. W. H. Spencer of St. Leonards-on-Sea, who in 1891 published an account of the vaporiser which he had been employing for the previous four years. The apparatus has since then undergone some modifications, and in its present simplified form is sold by the "Arema" Manufacturing Company, 27, High Holborn, W.C. It consists essentially of a water-bath, which is kept at a constant temperature by means of a special oil lamp. The body of the lamp is about three inches in height and stands on a wooden disc six inches in diameter, which supports a stout upright wire frame twelve inches high. The water-bath slides vertically in this frame, so that it may be placed at any required distance above the lamp. The upper part of the water-bath contains the substance to be vaporised, which will usually be one of the volatile oils, such as eucalyptus oil or terebene, and of which about an ounce or an ounce and a half will be used every twelve hours. The lamp holds rather more than two ounces of oil, which should be the best French colza, and lasts for about twelve hours; the wick is about five-eighths of an inch long and is carried in a holder which floats on the oil. The water in the outer pan of the water-bath is kept at a temperature of about 180° F. and requires renewal every twenty-four hours. The entire apparatus is simple, portable, and easy to manage.

## AN INVALID CUSHION.

WE have received from Messrs. Thos. J. Syer and Co., 45, Wilson-street, Finsbury, E.C., a new pattern of horsehair cushion which is very convenient and comfortable and may be used in an ordinary chair. Like most articles of the kind, it is provided with ties passing quite through its thickness, in order to maintain the shape and prevent the stuffing from being displaced. In this cushion these ties are ingeniously arranged in two lines, so as to give it a wedge shape and prevent pressure on the sciatic nerve. Pressure on the sacrum is effectually avoided by a recess in that part of the cushion which is furthest from the edge of the chair.

## MEDICAL BOOK-KEEPING.

IN connexion with my system of medical book-keeping I have felt that some means of making notes on cases ought to be provided, but it was impossible to make this addition to the book itself without great additional expense in interleaving and increasing the size unduly. To meet this requirement and to obviate the difficulty, I have designed "Memoranda Leaves," alphabetically arranged to correspond with the list and day book pages, for temporary insertion each month. At the end of the month these are placed in a box-file and fresh ones inserted, so that a record of each case can be found in a moment. The dates, which follow each other successively, and the names are arranged in columns at the end of each page, with printed headings, so that in referring it is only necessary to turn over the pages in the same manner as the page of a book is sought for. The "Leaves" are sent out (by Messrs. Silverlock) in sufficient number to last the six years that the book lasts, and each box-file thus contains the notes of all cases during that period. They can be obtained bound as a separate volume, but the loose leaves are more convenient in a busy practice.

W. WRIGHT HARDWICKE, M.D.

# THE LANCET.

*LONDON: SATURDAY, SEPTEMBER 21, 1895.*


WE have from time to time animadverted upon the rosy view taken by some of our contemporaries and others in regard to the tampering of food, and the contrary opinions we have given expression to are now officially stamped as correct by the disclosures contained in the second Blue-book of the Food Products Adulteration Committee, which, however, deals with only a part, but a very important part, of the subject—viz., the evidence of those connected with the wholesale trade. None the less one fact stands out prominently, and it is with no little satisfaction that we observe it, and that is that the malpractice most to be complained of now is not the use of adulterants of an unwholesome or even poisonous character, but simply the addition of cheaper substances, perhaps to improve the appearance, but more probably to add to bulk. Thus the public have little to fear in regard to injurious admixture, though suffering largely from deception. Moreover, the deception and fraud, it would appear, are as a rule the acts of the wholesale vendor rather than of the retailer or small shopkeeper. He would have been sanguine indeed who expected that the action of the memorable Analytical Commission of THE LANCET in 1850 would have entirely stamped out every shape and form of food and drugs adulteration; still when the gross practices then shown to exist, and brought to light by the founder of THE LANCET, are called to mind, there can be but little doubt of the excellent results of this inquiry—an inquiry which was fraught with tremendous issues and responsibilities. It must surely be conceded that credit is justly due to the late Mr. WAKLEY when a present day Blue-book records that adulteration with substances injurious to health is practically a thing of the past, and that although fraud is yet existent it is practised, not so much by the shopkeeper, who was the principal offender brought to justice by THE LANCET inquiry, as by the wholesale dealer, *whom the operations of the Food and Drugs Act do not reach*. Hitherto it has been the retailer who has been mainly controlled in regard to the sale of food, and on this account injustice doubtless has frequently been meted out to him. The remedy for this state of things is obvious and will no doubt be provided when the members of the Committee draw up their important report. Already, however, the evidence contained in their second Blue-book shows how great a public benefaction was THE LANCET'S initiative in the matter of a perilous crusade against adulteration nearly fifty years ago. In those days it was chiefly the shopkeepers who were convicted of gross fraud, and in many instances of selling articles of food sophisticated to a serious extent with injurious substances. The evidence of the Blue-book now shows the absolute necessity of applying the law to the manufacturer and to the wholesale importer, who has no doubt often escaped punishment wrongly inflicted on the retailer, the latter doubtless in some cases having been unconscious of selling a fraudulent article. The evidence on this matter is all the more convincing because it comes from large traders and trading associations who are desirous of stopping these malpractices.

We gather the following conclusions from the statements sworn to before the Committee by some of the leading representatives of the grocery trade. Butter is adulterated to a large extent, a great quantity of it being imported; the adulterants are chiefly foreign fats, while an excess of water sometimes over 40 per cent. is frequently met with. Spurious cheese is largely imported from America, and in smaller quantities from Hamburg and Holland; the so-called filled cheese is composed of skimmed milk, lard, "oleo oil," and other foreign fats. Cocoa is supplied either concentrated by the elimination of its 50 per cent. of fat or attenuated with starch and sugar; in the absence of a definition, however, for pure cocoa it is difficult to institute proceedings unless the admixture is proved to be unwholesome. Coffee is largely adulterated, and the gradual decrease of its consumption is probably due to the unscrupulous way in which it is mixed with chicory. Milk is the subject of considerable adulteration, and attention is drawn to the fact that large quantities of milk and cream are now imported without any precautions being taken to ensure their freedom from infection and impurities. Lard does not appear to be seriously adulterated, although admixtures are sold containing cotton-seed oil or beef stearine, but at a much lower price than that of pure lard. Oatmeal in one instance proved to be adulterated with barley meal. Olive oil is largely worked up with cotton and other oils. Pepper has been the subject of extensive adulteration with ground rice, "long pepper," olive stones, &c., although the practice has received considerable check by the vigorous application of the Sale of Food and Drugs Act, 1875. In the case of certain imported goods the Act has, however, been powerless; in one notorious case 70,000 lb. of so-called pepper dust, consisting of 1 per cent. of pepper and 99 per cent. of sand and clay, were offered for sale and disposed of by public auction in Mincing-lane. The desirability of extending the Act so as to make it include wholesale dealings is also manifest in the following case; a consignment of so-called salvage pepper, which had been soaking in Thames water and was saturated with rotten matter so as to be offensive, was disposed of at Mincing-lane to the extent of 240,000 lb. Instances of spurious drugs have likewise occurred in this connexion. Thus a quantity of gum kino was offered for sale by the brokers which "was no more (we are quoting Mr. UMNEY) like kino to the initiated than chalk is like cheese." Similarly spurious buchu leaves are palmed off as genuine ones, and false ipecacuanha for true. Cane sugar is largely replaced by beet sugar, which is ingeniously coloured with aniline dyes to imitate the superior and higher priced article. Spirits are chiefly diluted with water, but the publican contracts himself out of the Act by setting up a notice that "all spirits sold are diluted." In regard to ginger it is said that the trade of the country is being destroyed by the adulteration going on, the practice usually consisting in grinding up refuse or exhausted ginger with the genuine article. Liquorice, especially that imported from France, is heavily adulterated, principally with rice, starch, sago flour,

miller's sweepings, and other substances which often induce the presence of weevils and maggots. Caraway seed appears to be deprived of much of its oil and to be then sold mixed with genuine seed in the same way as ginger. Cinnamon has also been found to be adulterated with ground walnut shells, which, of course, are quite worthless. It is unnecessary to extend this list, but it is quite evident that the sooner the scope of the Act is made to include the wholesale trade, the factories, and the port of entry in the case of imported goods, so much the better will it be. Against all this it is satisfactory to record that the retail pharmacist's dealings have on the whole been most creditable.

A word on the administration of the Acts must not be omitted. There is no doubt that the Act of 1875, *so far as its scope went*, has done excellent service in the prevention of adulteration and has raised the standard of purity to a very creditable position, and this despite its shortcomings in regard to the details of its practical working. The Food and Drugs Act is a huge piece of legislative machinery, and it would have been surprising if breakdowns had not occurred. The time has come, however, when not only its scope should be extended, as we have already indicated, but when its administration should be strengthened and enforced. The Act is, as it were, just passing out of its experimental stage, and we are learning its defects. These defects must, indeed, be now patent to the members of the Committee, who will, doubtless, recommend to Parliament the desirability and necessity of making speedy reforms and of effecting some important administrative changes. As the evidence already shows, the system of taking samples needs modification, some greater control over the action of inspectors is wanted, a greater uniformity in magisterial decisions in adulteration cases is desirable, the scale of fines should be uniform and commensurate with the offence, and so forth. Lastly, there is the question of standards, and of a court of appeal, and of the emoluments and the qualifications of the public analyst. We hope to return to these subjects at a future time, but the direction in which legislation is needed on these points has already been indicated, and we confidently expect that a new Act more in accordance with the requirements of the present day, when it is largely a case of setting science to catch science, will arise Phœnix-like out of the ashes of the old one, which, nevertheless, has done the community excellent service, and which we are justly proud of reminding our readers had its origin in the famous Analytical Commission which was set on foot by THOMAS WAKLEY, the founder of THE LANCET, solely in the interests of the people's good and well-being.

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IT is not much more than half a century ago that the executors of a clergyman sued the Providence Assurance Company for £2000, the amount of an insurance effected upon his life, when, after hearing conflicting evidence on the point, the judge left it to the jury to decide whether insanity had a tendency to shorten life, instructing them that if they decided that insanity had such a tendency they must find for the defendant, and, if it had not, for the plaintiff. After a short deliberation the jury found for the plaintiff on the ground that insanity had no tendency to shorten life. This case was referred to by the late Dr. WILLIAM FARR in his well-known paper, read before the Royal Statistical Society in 1841, entitled "Report on the Mortality of Lunatics," as an instructive commentary on the misconception that then existed as to the effect of insanity upon mortality. Dr. FARR in this paper, from such statistics as were then available, came to the conclusion that "the mortality of severe cases of insanity cannot, I think, in favourable circumstances, be less than 6 per cent. (annually); so that the mortality is three times greater among lunatics than among the general population at the same age." Mr. NOEL A. HUMPHREYS, in his paper read before the same society in 1890 on Statistics of Insanity in England, deplored the fact that since Dr. FARR wrote on the subject so little progress had been made in the recording of statistical data on which more definite information concerning the influence of insanity upon mortality could be based.

Since the last-mentioned paper was read the Lunacy Commissioners have added to their reports a new and valuable table, which will before long supply the much-needed material for calculating the precise effect of insanity upon the rates of mortality of males and of females at different ages. Although the full value of these tables cannot be attained until they are available for a series of years, it may not be without interest to note some of the results shown in the table referred to, which appears in the recently issued forty-ninth report dealing with the insane patients known to the Commissioners on Jan. 1st last. It should be stated that the table now under notice relates to the rates of mortality among the insane in various kinds of asylums during the year 1893, which are calculated upon the numbers of inmates of those asylums on Jan. 1st in that year. It may be noted, in passing, that the calculated death-rates in this table would have been more correct had they been based upon the mean numbers of inmates at the beginning and at the end of the year during which the deaths occurred—namely, on Jan. 1st, 1893, and Jan. 1st, 1894. The effect of the method adopted by the Lunacy Commissioners is slightly to overstate the rates of mortality, but this scarcely invalidates them for comparison with the death-rates at the same groups of ages in the general English population. Among 30,533 male inmates of asylums on Jan. 1st, 1893, the death-rate per 1000 during the year 1893 was lowest, 77·4, at the age period twenty-five to thirty-five, and steadily rose to 352·5 among the small number living at the ages seventy-five to eighty-five. Thus the mortality of the insane, as of the general population, naturally increases with age. It is, however, very interesting to note that the excess of mortality due to insanity is far greatest at the earlier ages, and declines steadily to the end of life. Taking 100 to represent the rate of mortality among males in the general English population at each successive age period, the mortality among the male insane was 2237 at from fifteen to twenty, 1409 at from twenty to twenty-five, 1046 at from twenty-five to thirty-five, and 867 at from thirty-five to forty-five. At subsequent age periods the proportion to 100 declines still more rapidly from 519 at from forty-five to fifty-five to 246 at from seventy-five to eighty-five. It is scarcely

necessary to point out that the far greater relative excess of the mortality of the insane at the earlier ages is due to the much larger proportion of acute cases among the inmates of asylums under forty-five years of age. This is a point on which further statistical information would be both interesting and valuable. The mortality statistics of the female inmates of asylums give very similar results. It may be noted, however, that the rate of mortality in 1893 was lowest — 63·3 per 1000—at the age period forty-five to fifty-five, and at later periods rose successively to 270·9 at the seventy-five to eighty-five period. The rate at each age period was very considerably lower than the male rate at the same age. Consequently, the excess of mortality due to insanity was also far smaller among females than among males. The relative excess of female mortality was, however, as in the case of male mortality, greatest at the earlier age periods and steadily declined to the end of life. The death-rate among the female insane at the age of fifteen to twenty years was 1547 to 100 among the general population, at twenty to twenty-five years it was 1254, and at twenty-five to thirty-five years it was 893; the proportion to 100 further receded at subsequent age periods, and at seventy-five to eighty-five years it was only 208. The Lunacy Commissioners in their table compare also the mean mortality of the insane at all ages with the general English rate at all ages. This comparison is, however, absolutely valueless and misleading, unless correction is made for the abnormal age constitution of the insane population, which includes no infants and but few children, and a very excessive proportion of persons over sixty years of age.

It would be unwise to attach too much importance to this consideration of the Lunacy Commissioners' valuable figures for a single year, but it is safe to conclude that Dr. FARR very considerably understated the effect of insanity upon English mortality when he said that the mortality of the insane "is three times greater than among the general population at the same age." In 1893 the rate of mortality among the inmates of the English asylums, male and female, between the ages of twenty-five and fifty-five, when the inmates are most numerous, was more than six times the rate that prevailed at the same ages among the general English population.

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IT is possible, and even probable, that the electrical conditions of the atmosphere have an important bearing on bodily health. As evidence of this may be instanced that tendency to headache, irritability, and general malaise experienced by many persons just before a thunderstorm. Amongst the conditions that predispose to sunstroke in India there has been noticed that peculiar condition of the air "in which the hairs of a horse's tail repel each other, in which the hairs of the head stand on end, in which a man exposed to its influence becomes irritable, headachy, and restless without knowing exactly what is the matter with him." Various observers have remarked that a thunderstorm is often preceded by an increased frequency of cases of heat apoplexy. Whether this phenomenon be strictly attributable to electrical conditions, to the heat, to some alteration in the respirability of the air, or to other causes, it is difficult to determine.

As to the source of atmospheric electricity there are many hypotheses, but little positive knowledge. The problem of the thundercloud still awaits solution; yet this would seem only to require a series of well-arranged laboratory experiments on a sufficiently extensive scale. In the meantime it is safe to say that the electrification of the air is in some way connected with the presence of water. Whatever be the determining cause, the air before a thunderstorm becomes charged with electricity, and a charge of opposite sign is induced upon the earth; in other words, the difference of potential between the earth and the air goes on increasing. The body of a man standing on the earth's surface, and having, therefore, the earth's potential, may be regarded as a discharging point doing its best to effect the restoration of electric equilibrium between the earth and the air in its vicinity. This process will continue until, either by a steady discharge or by the disruptive discharge of the thunderstorm, tension is relieved and equilibrium is effectually restored. The man has really been suffering from an accelerated rate of electrical discharge. Now if his body be regarded as a connexion between earth and air it is to be remembered that the difference of potential between the two latter, and therefore between the head and feet of the man, is subject to various sudden and extensive fluctuations. A potential difference at one moment of 100 volts or less may in a few minutes rise to the same number of thousands. Experimenting in the Isle of Arran, Lord KELVIN found the difference of potential between the earth and an insulated burning match at a height of nine feet to vary from 200 to 400 volts, and "during breezes from the east and north-east it went up to 4000 volts." He points out that "the gradual variations minute after minute through so wide a range as three or four to one, and not infrequently rising to twenty times the ordinary minimum, must have been due to positively electrified masses of air within a few hundred feet of the place of observation, wafted along with the gentle winds of five feet or ten feet or fifteen feet a second." If, therefore, the body be subjected to such variations of potential as occur in fine weather between the earth and the electrified masses of air of which Lord KELVIN speaks, much more formidable must be the conditions that exist between the earth and the heavily charged thundercloud. The animal body, accustomed as it has become to its electrical environment, and little sensitive to the slighter fluctuations of potential, may nevertheless be seriously influenced by the severer manifestations of the thunderstorm. Questions of this kind raise some interesting points in connexion with the therapeutic use of the so-called electro-static bath. This consists, as is well known, of the simple placing of the insulated body in connexion with one or other pole of the static machine. Not that under these conditions the electricity is strictly "static" or at rest; the body of the patient is traversed by a current at very high potential which completes its circuit through the air. It is stated that with a four-plate Holtz machine the insulated body was brought to a potential of 30,000 volts, the current passing being about $\frac{1}{15000}$ of an ampère. For this procedure there are claimed well-determined physiological effects, such as increased action of the skin; an influence on blood pressure, as shown by

sphygmographic tracings; an increase in the frequency and the depth of the respirations; as well as increased excretion of urea and phosphates.[1]

Now, reverting to what has been already stated, it is evident that a living body exists on the earth under definite, although changeable, electrical conditions. In point of fact, it lives and moves and has its being in an electro-static bath. The kind of bath—that is, the electrical condition of the air, and therefore of the earth—varies with the weather. There seems to be "a normal fair weather positive of natural atmospheric electricity." On a cloudy day the sign varies. How far do facts of this kind help to explain the influence of weather upon health? It has been suggested[2] that, inasmuch as the neurasthenic, the gouty, the rheumatic, and persons suffering from diseases of the spinal cord are better on a clear day than on a cloudy one, the indication is to treat them by negative electrification. It must be in the highest degree difficult to trace such effects to the electrical rather than to the hygrometric or other conditions of the atmosphere; still, vague as such conjectures are, it is not impossible that the electrical condition of the air may eventually furnish the key to treatment by the electro-static bath.

# Annotations.

"Ne quid nimis."

## STATE BACTERIOLOGY.

PROBABLY the Medical Department of the Local Government Board never stood so high in public estimation as it does to-day. The experience of its work done in the best interests of public health and for the furtherance of sanitary science during many years past has been such as to claim the gratitude of the nation again and again. Yet it is in such circumstances that our contemporary the *Daily Chronicle*, in its issue of the 14th inst., takes pains to dilate in a lengthy leading article on the so-called "bacteria madness" of the Medical Department. Dealing with the recently issued volume of 1893–94, the paper speaks of "its 500 pages of microscopic portents." Save in so far as all the work of the Department, of whatever character, savours of a "microscopic" regard for precision of fact, the statement is a serious exaggeration. The report in question consists of 556 pages of printed matter, and less than 100 of them are devoted to bacteriology as applied to sanitary science, and this in the sole State-issued document on such a vital subject. In the other 400 and odd pages we find discussed at length such matters as vaccination, water-borne enteric fever, cholera prevalences, lead poisoning by water-supplies, epidemic skin disease, and the like, so that the "bacteria madness" sinks into comparative insignificance and is, moreover, relegated to the end of the volume. But if it were not so why decry, as our contemporary does, bacteriology as an adjunct to public health work? Surely the *Daily Chronicle* and its readers will not readily belittle the part played by the bacteriological laboratory in our recent cholera panic of 1893, or the advantage it is now affording towards the prompt diagnosis of diphtheria; or the significance of the present day knowledge, by the aid of bacteriology, of disorders in the lower animals which have an important bearing on certain infectious diseases in man. The value of disinfection of one and another kind, too, has only been ascertained with any degree of certainty by laboratory experiment, and these are but instances of our indebtedness to bacteriology. It is, as a branch of preventive medicine, of necessarily slow progress; and it is often only by years of patient research that definite practical results are arrived at. But perhaps the most absurd view taken by the *Daily Chronicle* is that of the professional experts at Whitehall being "glued to their microscopes." We have searched in vain to find the name of any one of the bacteriologists, details of whose work find place in the volume in question, among the staff of the medical inspectorate. Just as their work is a subsection of public medicine, so these workers are themselves only from year to year attached to the Public Health Department, and only supplement the clinical and etiological observation of disease by the aid of the microscope and the culture tube. The truth of the matter is that the nation has at Whitehall a small body of sanitary experts whose whole time is occupied in the duty of safeguarding the public health in the broadest sense of the term, and to whom the community is glad and able to look with full confidence in any time of national danger by reason of formidable threatenings of disease.

[1] E. Huet: Manuel de Médecine (4), p. 704.
[2] Dr. Morton: Transactions of the American Institute of Electrical Engineers, November, 1893, p. 560.

## ANTHROPOPHAGI AND MOTHERS-IN-LAW.

THE Anthropological Section of the British Association had a most interesting meeting on Sept. 14th. The first paper was read by Mr. Myres, and consisted of an abstract of the report of the committee appointed to investigate the North-Western tribes of Canada. In British Columbia there is a tribe known as the Ts'ets'a'ut, among whom is "found the custom of avoidance between mother-in-law and son-in-law (*Matuo Ha*) which was common to all the Tinneh tribes. They were ashamed to talk to each other or even to see each other." The custom of avoidance of mothers-in-law is, we fancy, not unknown among tribes which have attained a higher degree of civilisation than the Ts'ets'a'uts, but these untutored people have an advantage over their more superior brethren in that among them the avoidance is mutual, while in the records of the Newcome and Lovel families it is noted on the authority of their biographer that neither did the Campaigner avoid Clive Newcome, nor did Lady Baker avoid Frederick Lovel. From this subject the session passed to consider the subject of cannibalism. It is the tendency of the age to modify if not to entirely alter preconceived notions as to the wickedness of those whom we have been brought up to believe were monsters of iniquity. Thus the gracious sovereign lady whom we were all taught to stigmatise by the opprobrious epithet of "Bloody" has lately been shown to be a lady of most mild and merciful disposition. Blue Beard, if not absolutely harmless, was merely an involuntary sufferer from "psychopathia sexualis," and now we have the whitewashing of the cannibal. Captain Hinde, who has been travelling and fighting for some years, was the courageous person who took upon himself to show that the cannibal has, after all, many lovable traits. True, he is somewhat cruel in his ways of preparing food; for instance, "certain tribes of the Bangala race themselves acknowledge that they break the arms and legs of the victim, and place the body thus mutilated and still living in water for two or three days, on the supposition that this pre-mortem treatment renders the flesh more palatable." But this is no worse than our forefathers' custom of whipping pigs to death, or roasting geese "quick" as the incomparable Sidonia did. After a fight Captain Hinde's followers invariably ate up the killed, a method of "disposal of the dead" which has its merits. Cannibalism probably originated in the religious idea that the godhead was incarnated in

some human being or animal, and that by eating this the eaters became imbued with some spark of divinity. In the lower races the idea of divinity was lost and only the qualities of bravery or strength remained. It may be said with all reverence, as one speaker pointed out, that the deepest mysteries of the Christian religion are founded on this, and closely connected is the Holy Grail legend, the Christianised form of a Pagan semi-cannibal myth. It would take up too much space to enter into all the branches of this subject—corpse cakes, mell dolls, ancient sacramental rites, the swallowing of the children of Cronos—but we have said sufficient to show that in a custom regarded with abhorrence by all modern races there lurk some faint traces of the universal longing for something higher than our mere humanity.

## THE PLAISTOW MATRICIDE.

THE above case is one of the most remarkable in the history of legal medicine. A crime more revolting, foul, and unnatural it would be difficult to conceive, and its only extenuating feature is that it was committed by a person who, according to the finding of the jury, was irresponsible for the act. On July 13th last Robert Allen Coombes slew his mother by stabbing her in the heart whilst in bed with her. There is ample proof that the murder was premeditated and carried out in the most cold-blooded way. The prisoner, acting in collusion with his younger brother, having determined to kill his mother, carried out his fell purpose in the manner described. He then covered up her body and with the proceeds of the robbery of the effects belonging to his parents indulged himself in attending cricket matches. It was not until many days after the murder that the crime was discovered. At the inquiry of a relative as to what had become of his mother the lad, after prevarication and lying, boldly confessed that he had compassed the deed, and that the corpse was lying in a room adjacent to the one in which he was playing cards with his brother and a sailor named Fox. The latter was indicted as being an accessory after the fact, but there was no proof that he knew that Coombes had murdered his mother or that he was aware of the presence of the corpse in the house. A curious legal point arose at the trial at the Central Criminal Court—viz., whether Fox could be convicted as an accessory after the fact if the murder was committed by Coombes whilst in a state of insanity. Mr. Justice Kennedy, after consulting the authorities, uled that as the felonious act of an insane person was not legally a crime Fox must be acquitted if the jury found Coombes to have been a lunatic at the time when he killed his parent. This in effect was their verdict, and so, independently of the merits of the case, Fox was acquitted. We are not in a position to traverse the reading of the statute, and although the above interpretation may be good at criminal law it certainly strikes us as running counter to the dictates of common-sense. The younger Coombes was certainly an accessory before and after the fact, but as he was to a great extent under the domination of his brother it was wisely decided not to proceed against him. Had the charge been pursued it is probable the jury would have acquitted him. It is to be hoped that with such a fearful past he will not be allowed to shape his future for himself. Robert Coombes, whom the jury found to have been insane when he murdered his mother, was a good instance of a particular type of insanity. Judged by the strict letter of the law, which holds that the proof of insanity is the knowledge of right and wrong, and consequently of the nature and quality of the act, the contention of the prosecuting counsel and the direction of the learned judge can well be understood. Coombes was not suffering from intellectual insanity, and this is the only form recognised as relieving from criminal responsibility; but his life-history points to moral alienism as his usual state and to impulsive homicidal mania as the culminating feature of his mental disorder. He seems from the evidence to have been brought into the world by instrumental aid, which had left permanent marks. Years ago he had to be treated for severe headache. Of course it may be asserted that the carelessness with which he viewed his position after committal, and the recklessness with which he spoke and wrote on the matter of his trial and its possible issue, were assumed in order to mislead the medical officer of the prison and others, and thereby construct a defence against the capital charge. We hold, however, that it is far more likely that a boy, however deep his moral depravity, would, on realising and reviewing such a monstrous and unnatural crime, be seized with remorse and shame. Again, although there was some motive for the act, the evidence conclusively shows that it was totally inadequate. After a careful consideration of the case in all its aspects we unhesitatingly endorse the verdict of the jury. To have convicted Coombes would have been an injustice; to have sacrificed his life would have been a crime. It is matter for congratulation that the sound common-sense of the jury prevailed over what was probably the strict interpretation of the law in its bearing on criminal responsibility.

## IS THE SMOKE NUISANCES ACT PROPERLY ENFORCED?

NOT the least important section of the Public Health Act is that which gives power to local authorities to compel the owners of factories &c. to prevent nuisance arising from the escape of smoke and worse emanations. Any chimney (not being the chimney of a private dwelling-house) sending forth black smoke in such quantities as to be a nuisance may be dealt with summarily under this clause of the Act. Yet those who journey to and from the suburban districts every day must have observed that in a great majority of instances this useful Act is not applied as it should be. Indeed, there is every appearance that it is most wantonly disregarded. Within a circle of about four miles' radius outside the city of London several, if not the majority, of London's factories are situated, and these, comprising glue works, soap works, match works, chemical works, not to mention other offensive trades, may be seen every day vomiting forth heavy black smoke which eventually enshrouds in hideous murk and gloom just those densely populated places where pure, fresh air is most needed. We have reason to believe that this offence is being committed on all sides of the metropolis. We will, however, quote one instance of which we have had ocular demonstration. Travellers by that branch of the Great Eastern Railway running between Bow and Stratford can count a score or so of chimneys connected with the factories of this low-lying district emitting huge volumes of densely black smoke in the most outrageous manner, and it is well known that when a tendency to fog exists it is between these points, as the railway officials must find to their cost, where it is thickest and most persistent. It not infrequently happens also that the passengers are sickened by the offensive smells pervading the compartments as the train passes through this district. The evil is, of course, accentuated by the train stopping, when the ordeal becomes really severe. We have reason for believing that similar nuisances exist elsewhere at places a few miles out of the city, so that, however fresh and pure the prevailing wind may be, and in whatever direction it blows, some gloom and contamination must reach the inner metropolis. We trust that the authorities may be roused to action in this matter and take immediate steps to bring to book any offender, especially as he can avail himself of simple means by which the production of objectionable smoke may be immensely minimised. We

might point out that now is the time to act, before the mischief is accentuated by sudden changes of pressure and temperature, and before the subject is brought forcibly home to us by the onset and prevalence of a real "pea-souper."

## THE CHITRAL FORCE.

THE latest Indian papers contain several items of interest about the late expedition to Chitral. Surgeon-Major Sir George Robertson will have arrived ere this at Chitral and have declared the intentions of the Indian Government. As soon as the reports from Sir Robert Low and General Stedman have been considered the Government will settle the final details regarding the camps and fortified posts that are to be occupied. In the meantime the Chitral Relief Force is being rapidly broken up, and the European regiments have returned to India without the exhibition of any hostile signs on the part of the tribes during their withdrawal. The losses from disease and exposure in the field have, as usual, far exceeded those attributable to casualties in action during the late expedition. Enteric fever is stated to have prevailed among the troops on the highlands beyond the border, just as it does among troops in their cantonments, and to have caused many deaths; but no cholera has occurred so far among the regiments during their return march, such as, it will be remembered, took place on the return march of the force from Gandamak in the Afghan campaign of 1878–9. Cholera was then prevailing in a severe epidemic form, which is not the case at present, and this fact makes all the difference. Fever is, however, very common in the Peshawar Valley at this season and has to be taken into account. But the Indian authorities are stated to have taken great care as to their sanitary arrangements, camping grounds, and the transport of the troops and their prompt entraining at Nowshera.

## ARTISTIC OR HYGIENIC LONDON?

IT is idle to deny that the discussions which the daily papers open their columns to in the "hungry" season are useful and instructive, if not productive of practical good. The subject of beautifying London is one, for instance, upon which everyone is entitled to contribute an opinion, and out of a crop of suggestions a few surely are certain to be feasible and worthy of consideration. Invariably, however, there are those—or at least there is certain to be one—who think that other questions of reform are more pressing. And the suggestion that we should turn our attention to the sweetening and cleansing of the air of our streets and to the removal of effete animal products is a case in point. On hygienic grounds it should be considered first, while from an artistic point of view even the effect upon the nose surely requires as much studying as the effect upon the eye. An eyesore is comparable with a stench, but the removal of the latter first would, we imagine, be the step preferred by most people. The atmosphere of our streets is very often loathsome and sickening, especially when the weather is warm and when there is an absence of breeze. The offensive smell is due in the main to the effete gaseous, liquid, and solid products given off by hard-worked horses, and as long as horses are used in our streets it is not easy to suggest a remedy beyond that now applied—the speedy removal as far as is possible of these products by scavengers. When street locomotion comes to be accomplished by means of steam or electric power or by means of petroleum motors—a day that may not be far distant—we may hope to have 'no complaining in our streets" of the filthiness of the atmosphere, but what will those who clamour for the beautifying of London have to say to such a horribly inartistic idea? We might remind them, also, of a third sense that is rudely assailed in our streets—that of hearing—but we may hope that this will soon be in part mitigated by the general adoption of the rubber or inflated tyre. We have nothing to suggest but legislative measures to clear the streets of "the special editions" and other itinerant cries, besides "the music" performed gratis to the passers-by. But who shall say which attack on these three senses is the least nuisance, and which affects most prejudicially the health? Each is an important factor in this connexion, since we know the restorative value to health of a change of scene, of a change of air, and of quiet.

## A QUESTION OF RESPONSIBILITY.

TWO men were suffocated in a cistern at Bristol last week under very unusual circumstances. Some defective drains were found in the house of a dental surgeon, and when the drain was opened it was discovered that a rain-water pipe led directly into a cistern. The cistern was on the cellarage floor, and access was obtained to it by means of a manhole. A pipe also led from a photographer's into the tank, and the chemicals used in his work would drain into it. It was advised to clean out the cistern and fill it up with rubble, so as to get rid of any nuisance, as well as the cistern itself. The contents of the tank were pumped out to about twelve inches from the bottom; this sediment the unfortunate men tried to remove, but they were quickly overcome by the sulphuretted hydrogen gas which was liberated by the disturbance of this sediment. They both expired before any assistance could be given them. This gas was the product of special chemical action by the percolation into the tank of the waste preparations used in the process of photography. At the inquest the coroner stated that there was no criminal negligence of any sort. Certainly the case is most exceptional, and the question of responsibility is practically incapable of solution.

## DIPHTHERIA IN LONDON.

DIPHTHERIA prevalence in London is now again as it was in the beginning of August, when the school holidays were commencing. Before that period, and during the month of July, the amount of diphtheria in the metropolis was larger than it has been since, but during the three weeks that have elapsed since the board schools reopened after the summer vacation the recorded attacks have been again growing in number The facts seem to show that, although the closing of the schools may have had little influence on diphtheria mortality in London, yet the closing had a marked effect on the number of sufferers from the malady. Thus in the month of July the weekly record of attacks averaged some 275; in the succeeding four weeks of school holidays this average fell to just over 200; but in the subsequent three weeks it has again risen to 220. In the matter of liability to attack the school holidays have therefore saved children to the extent of some 35 per cent., but the resumption of school work has in the three weeks in question quite obliterated the good results of the holidays. With reference to fatality, the deaths from diphtheria in July averaged 47 weekly; during the month of school closure the average only fell one point, whilst in the subsequent period of three weeks the average was reduced to 44. Last week the number of deaths was 21 in excess of the corrected decennial average for the corresponding week of the years 1885–94. Much the same thing took place last year, but on a somewhat smaller scale, for this year there is a larger prevalence than during 1894. The weekly average of cases in July, 1894, was 200, and in the following month of school holidays it fell to 190, with a further fall to 184 in the next three weeks. But the deaths, while 44 per week in the month preceding and the three weeks following school closure, were

as high as 55 per week during the holiday period. Thus, in 1894 the three weeks after the holidays showed a continued fall in the amount of the disease and a substantial fall in its fatality as compared with the time of actual closure. Still the facts point to much good resulting from the release of children from the aggregation inevitable in school. In London there were 55 deaths last week, as against 24, 40, and 38 in the three weeks before; all but one being in children and persons under the age of twenty years. There were 5 deaths each in Mile End Old Town, Poplar, and Greenwich, and 4 each in Hackney and Lambeth sanitary areas. The admissions to hospital were 105 as compared with previous weekly figures of 81, 86, and 78, and the mortality was about 22 per cent. of the attacks. There remained in hospital at the close of the week 663 patients, a number only slightly varying on successive Saturdays for several weeks past. In the metropolitan outer ring 14 deaths were attributed to diphtheria, and among these 8 were those of persons belonging to the West Ham registration district.

## DEATH IN BANK-NOTES.

ACCORDING to *L'Indépendance Belge* the cashier of a Viennese bank met with his death a short time ago under circumstances as remarkable as they are happily rare. Having to count a large number of used bank-notes, all more or less soiled and difficult to separate from each other, he incautiously, and in spite of a friendly warning regarding the risk he was thereby encountering, endeavoured to facilitate his work by moistening his fingers and thumb with his saliva. The same evening he felt a tingling pain in his lips, but did not pay much attention to the symptom, thinking it would pass away. The next morning, however, as his mouth and tongue were hot and swollen, he began to feel alarmed, and without loss of time consulted a medical man, who is said to have forthwith incised the tumour. What the effects, immediate and remote, of this procedure were we are not told, the remainder of the history being briefly summed up in the following terms: "Notwithstanding the operation the patient died three days subsequently from the effects of the poison which he had absorbed." There are some points in this case, as set forth by our lay contemporary, which require elucidation. It is to be hoped, therefore, that an account from a qualified source will be forthcoming.

## AN INEBRIATES BILL.

THE medical profession in Austria is to be congratulated on a success recently attained by views which have long been maintained by its members in common with their brethren in other parts of the world. The position of the drunkard in social life has hitherto been regarded in some quarters as an anomaly not so nearly related to the state of lunacy as to justify its treatment on similar lines. There has always existed a feeling that the craving for drink with its consequences ought to be treated as a mere bad habit, a temporary and recoverable error, not really a form of mental disorder. At last there are signs of a return to sounder reasoning. As announced by our Vienna correspondent in our columns last week a Bill now about to be submitted to the Austrian Reichsrath proposes to treat the persistent drunkard as mentally incapable. As such he shall be restrained from injuring either himself or others dependent upon him. This restraint may take the form either of voluntary or compulsory detention in specially appointed retreats. In cases where the confinement is compulsory, provision is made for a regular trial in which witnesses, both lay and medical, will be heard. The justification for detention will consist in such facts as repeated previous convictions of drunkenness, proof of danger to life, and other evidence strong enough to leave no doubt that the alcoholic passion has become ungovernable and has rendered its victim morally or economically a source of danger to himself or others. The term of detention will be two years, and this term is liable to reduction or renewal as occasion requires. The Bill may be taken as fairly representing medical opinion on this subject. Modifications in detail may, perhaps, be found advisable as time goes on, but the measure cannot but be approved on its general outlines. As the first practical attempt to deal candidly with the drink craving, and to treat it as what in very many cases it is—a masterful and engrained vice which has really absorbed all traces of a resisting will—it deserves, and we hope it will receive, a fair trial. We entirely fail to see how injustice can be complained of under such an Act as this, where every precaution is taken to render the preliminary investigation as searching as possible, where no personal privilege is lost by detention, and where the patient's own interest will be served in a degree at least equal to that of his relatives and friends.

## INTRA-CRANIAL OPERATIONS ON THE FIFTH NERVE.

IN a recent number of the *Neurologisches Centralblatt* an abstract is given of an important paper on this subject by F. Krause which appeared in the fiftieth volume of Langenbeck's *Archiv;* of eight cases operated upon by him only one died, a man aged seventy-two, whose death occurred, six days after the operation, from heart failure due to atheroma of the coronary arteries. The others all did well, and in no case in which there was total removal of the ganglion has any recurrence of pain as yet taken place. In the only case in which Krause restricted himself to an operation on the second division of the nerve there was recurrence of pain, and then the ganglion was removed and the pain disappeared and remained absent. A comparison of the cases operated on by Rose's method and those operated on by the method of Krause and Frank Nartley shows a mortality of 18 per cent. in the former and 9·8 in the latter. Curious functional disturbances are described as following the operation. Sometimes there is difficulty in opening the mouth, apparently determined by contraction taking place in the muscles of mastication. In spite of the complete anæsthesia of the cornea and conjunctiva, only in one case was there observed by Krause a slight corneal ulcer, which quickly healed. The masseter, temporal, and pterygoid muscles were weakened on the affected side, but little inconvenience resulted. The peculiar and varying sensory impairment in the different regions is also described, and finally the indications for this very radical operation are clearly set out.

## HOSPITAL ABUSE AT BRIGHTON.

A RECENT number of a local paper contains a letter on the abuse of hospitals at Brighton which is well worth the attention of the inhabitants of that favoured place. The letter is by Dr. Francis J. A. Waring and is admirable alike in the spirit in which it is written and the facts which it adduces. Dr. Waring, while making it abundantly clear that the medical profession is unanimous in wishing all deserving cases to have every attention and consideration at hospitals, expresses his conviction that a vast number of persons who can well afford to pay are treated at the various medical charities—to wit, the Sussex County Hospital, the Hospital for Children, Hospital for Women, Throat and Ear Hospital, Eye Hospital, Brighton and Hove Dispensary, and the two Homœopathic Dispensaries. Out of a population of 150,000 no less than 38,113 patients are treated at these charitable institutions. Of 3704 births in Brighton and Hove in 1894 no less than 1240 women, or

one-third of the whole, have been attended by one charity alone. Dr. Waring says that it is a common thing for men earning from 35*s.* to 40*s.* a week to say that they have been taking their children to a hospital. Such facts are a discredit to Brighton and to the administration of its charities. They tend distinctly to injure the medical charities by hardening the hearts of those who have the means and the disposition to help them, and they tend to degrade those who are relieved by treating them as if they were paupers. Dr. Waring's letter should be seriously pondered by the subscribers and the committee of every medical charity in Brighton.

## THE DIGESTIBILITY OF GASEOUS BEVERAGES.

MM. CARRION AND CAUTRU are the authors of an interesting paper on the Digestion of Gaseous Beverages which was read at one of the Bordeaux Congresses. According to these observers sparkling cider champagne and seltzer water are all endowed with the property of prolonging the digestive process, while at the same time they add greatly to its intenseness. Cider, moreover, is essentially diuretic, and it also exercises a favourable influence on nutrition. It would seem, therefore, that this old-fashioned beverage may with advantage be recommended for use at meals to sufferers from that form of dyspepsia in which the stomach evacuates its contents too quickly, to the detriment of the thereby overworked intestines. In addition to the good qualities already mentioned, well-made cider is reputed to be an efficient corrective of the uric acid diathesis. In Normandy, where the juice of the apple constitutes the staple drink of the lower classes, gout is said to be unknown save amongst the wealthy who indulge in wine. Gravel and stone in the bladder are likewise very rare, and MM. Carrion and Cautru are satisfied that the immunity from both these forms of disease should be placed to the credit of cider.

## THE ADULTERATION OF BUTTER IN FRANCE.

THE Central Committee of Hygiene in Paris is to be congratulated on its action with regard to the preparation of butter for exportation, a matter of considerable importance from the point of view of the British consumer. About the year 1876, on the strength of a report drawn up by M. Boullay, in which it was maintained that the admixture of borax and its associates with butter was permissible inasmuch as the addition had never been shown to produce bad consequences, the practice received official sanction and has ever since been habitually resorted to in the trade. In 1883, however, a re-examination of the subject was instituted by competent observers, who came to the conclusion that the continual ingestion of borax was liable to bring about deterioration of the blood corpuscles, and some years later M. Pouchet was able to confirm this dictum from his own investigations. Satisfied with the proof thus afforded, the committee revised its former decision and issued a recommendation to the effect that the employment of borate of soda and boracic acid for the preservation of butter should be made illegal, as in the case of wine. This advice was accepted by Government after deliberation, and in due course a law appeared forbidding the use of borax for the conservation of all provisions, whether destined for home consumption or for export. The first application of the amended ordinance took place recently, when a Normandy butter merchant was tried and condemned for neglecting to conform his practice to its prescriptions. As may be supposed, this new departure has had a most disturbing effect amongst the exporters of French butter, who are loud in their remonstrances against what they endeavour to stigmatise as inconsistency on the part of the Committee of Hygiene. A public body, having once come to a decision on any given subject, should never be allowed to change it under any circumstances, say the would-be adulterants in default of a more logical argument; but they likewise dwell upon the interests of a great national industry already overhandicapped by competition, and wind up a somewhat unblushing petition with the naïve contention that, after all, the butter in question is destined for consumption abroad. Commenting on the matter in *L'Union Médicale*, M. Jules Rochard makes the following sensible observations: "This agitation will cease of its own accord. It is to the interest of our commerce that its products should be above suspicion; in order that they may preserve their good reputation the first essential is that they should be of an irreproachable purity. Borax and boracic acid, like the salicylate of soda, are far oftener employed for the purpose of masking defects in the substances to which they are added than they are for the conservation of sound and wholesome provisions."

## EXPLOSIVE LAMPS.

FATAL accidents arising from the use of lamps are happily not very common if we take into account the nearly universal employment of this form of artificial light. Neither is it to be expected that we can, by means of any safeguard known to us, entirely abolish the possibility of their occurrence. Even in regard to this matter no substitute can be found for personal discretion and no code of rules can possibly be framed to meet and obviate the effects of every chance emergency. It has been abundantly proved, however, that precaution may be carried much further than it now is. Such an event as the spontaneous explosion of a lighted lamp while apparently in working order ought certainly to be, if it is not, preventable. The cause in such a case must be due either to a fault of management or of construction. It is already well known that the usual source of explosion is found in the mixed gas of oil vapour and ordinary air which fills the upper part of a partially exhausted lamp chamber. The development of this mixture is, therefore, to be prevented as far as possible, and this object can only be attained by regularly and completely filling the reservoir with fresh oil. Not less important is the relative adaptation of the wick and its holder. Cheap lamps are apt to be defective in regard to this requirement, and they are, in fact, constructed on an explosive principle. In other cases the reservoir is easily breakable, or, again, the pedestal may be unsteady, but it is needless now to go into further details. We would, however, insist very strongly upon the necessity and the duty of obliging manufacturers to supply only such articles as conform to a set standard of security. This duty is well within the power of the Legislature, and it lays no additional burden of cost on the producer, only that of taking due pains in a work which is not in itself difficult. Be the form and finish what they may, certain qualities ought to be legally required in the construction of every lamp. These, already referred to, may again be briefly summarised. They include a broad and firm base, a pedestal of only moderate height, a reservoir of solid material, and a wick and holder accurately adapted to each other. We would have no lamp sanctioned by authority which did not conform to these necessary structural conditions.

## THE DIFFUSION OF SMALL-POX.

SMALL-POX in the metropolis last week showed precisely the same features as in several preceding weeks—namely, some three dozen cases, mostly in the eastern and southern groups of sanitary districts. Two deaths from this disease were registered—one each in Lambeth and St. George Hanover-square sanitary areas, one of these cases being an

unvaccinated child aged between one and five years of age, and the other an adult concerning whose state as to vaccination nothing is known. The admissions to hospital last week numbered 42, as compared with 65, 36, and 25 in each of the three preceding weeks; the number of patients remaining in the wards has been steadily falling since it stood at 342 on Saturday, Aug. 24th, and was 307 on Saturday last. A few cases have occurred in the Ham districts, but otherwise the home counties seem to be free, and the western and midland registration areas show but little evidence of the disease. Some half-dozen towns in Lancashire continue to record attacks; in the Openshaw portion of the county borough of Manchester 3 fresh cases appeared last week, as well as 1 in Salford; one death occurred in the city also; but Oldham, while having a few cases, was free from fatal attack. In Dublin the cases are few and of a decidedly mild type, since no death has been registered for some weeks; and in the first week of this month only 4 admissions to hospital were reported, together with 6 discharges, leaving 13 acute cases under isolation.

## THE PHENYL-HYDRAZIN TEST FOR SUGAR IN URINE.

DR. R. T. WILLIAMSON of Manchester has recently published in brochure form the results of his experience of the value of the phenyl-hydrazin test for sugar in urine for clinical work. He points out that the test may yield crystals from normal urine if the mixture is heated too long, but he has never succeeded in obtaining these crystals when the urine was boiled in a test-tube for two minutes only, a fact which he thinks removes the objection that the test is too sensitive. He proceeds as follows. A test-tube of ordinary size is filled for about half an inch with powdered hydrochlorate of phenyl-hydrazin; then acetate of soda in powder is added for another half-inch. The test-tube is next half filled with urine and boiled over a spirit lamp. By shaking the tube the salts soon dissolve, and after the liquid has reached boiling point the boiling is continued for about two minutes. The tube is then allowed to stand and is finally examined. If sugar is present a yellowish deposit forms at the bottom of the tube, and on microscopical examination this deposit is seen to consist chiefly of beautiful needle-shaped crystals of a bright sulphur-yellow colour. The test can be performed and the characteristic crystals easily obtained even if the urine contains a large quantity of albumin, the crystals of phenyl-glucosazone being easily distinguished under the microscope from the amorphous granules of coagulated albumin. By the manner of proceeding just described no crystals are obtained, it is said, in normal urine. Small crystals, which may be due to glycuronic acid or to minute traces of sugar, are, however, obtained on prolonged heating; but phenyl-hydrazin possesses the one distinct advantage over Fehling's test that it gives no reaction with uric acid, creatinine, or hippuric acid. Some of the disadvantages of the Fehling test to which Dr. Williamson alludes are avoided, we may point out, by the use of ammonia with Fehling's solution, as suggested by Dr. Pavy.

## FORMALDEHYDE DISINFECTION BY MEANS OF LAMPS.

FORMALIN or formic aldehyde has been largely employed of late as an antiseptic, and an important application of its properties is its increasing adoption as a preservative for milk, beer, and other liquids. Its employment for this purpose does not appear to be open to any objection, since very minute quantities suffice. It has recently been proposed to prepare this substance by a somewhat novel method which may be conveniently available for disinfecting rooms &c. It is well known that the partial combustion of ordinary alcohol may be effected by means of a previously heated platinum wire. Thus, if a spiral of platinum wire be wound around the wick of an ordinary spirit lamp so that the spiral projects half an inch or so above the top of the wick, combustion continues to go on after the flame has been blown out, the wire remaining incandescent, while the spirit undergoes a change from alcohol into aldehyde. It is an instance, so to speak, of incomplete combustion in which the incomplete product of oxidation, aldehyde, is obtained instead of the complete product, acetic acid. Thus, $C_2H_6O + O = C_2H_4O$ (aldehyde) $+ H_2O$, but $C_2H_6O + 2O = H_2O + C_2H_4O_2$ (acetic acid). It is only necessary to substitute wood spirit for ordinary spirit of wine when, instead of acetic aldehyde, formic aldehyde is obtained. Lamps have been especially constructed with platinum screens for this purpose, and it is suggested that they would afford a convenient means of giving off the vapours of formaldehyde for disinfecting hospital wards, infected dwellings, &c. Since the vapours of formaldehyde have no injurious effect upon furniture and metal fittings, this method may prove a useful precautionary sanitary measure and an important addition to our ordinary means of disinfection. We are not so sure, however, that it can be an economical method, as from the very nature of the process—namely, that of imperfect combustion—the yield of formaldehyde is sure to fall short of theoretical requirements, while loss from volatilisation of unchanged spirit is another factor that must be taken into account.

# MEDICAL VACATION NOTES.

(FROM HOLIDAY CORRESPONDENTS.)

## I.—NORTH CORNWALL.

THERE are indications that North Cornwall is about to be a favourite holiday resort. And there are many reasons why it should be so. This region (Tintagel and Boscastle) has still the great charm for Londoners of being off the great highway of tourists. The line from Okehampton is a single one, and there are four or five miles to be traversed by coach from Camelford. There are occasional invasions for the day by trippers in carriages, to the embarrassment of the limited commissariat of the one or two hotels and the two or three shops of the place. But the scale of the cliffs and downs makes their presence scarcely felt by the regular visitors, who can vary their walks or drives every day for a month and still feel that there is much to see and interest them. The people themselves are a study, and a pleasant one. There is an air of primitive courtesy about them. The humblest labourer or his children have a civil and kindly salute for every stranger they meet, and in their dealings are reasonable and unexacting. They are not rich, but they are comfortably and contentedly poor. The children are nice-looking and healthy in appearance. They are dressed in taste, with good shoes and stockings, contrasting favourably with what one would see in corresponding districts of other parts of the United Kingdom. Wages are fairly good, about 15*s.* a week. Commodities are few and humble; wants are correspondingly simple. One of the social features of the district is the extreme temperance of the people; public-houses are scarcely to be seen. Teetotalism is common and almost an element in the creed of the natives, who in their way are very religious, with a strong tendency to Nonconforming types of worship, more or less Wesleyan in character, and "Bible-Christian," whatever that may mean. The industries of the district are mostly agriculture and slate-quarrying. Medical men are not in much demand. The two practitioners of the district are well employed and much appreciated. But there is no room for more. The chief charm of the place, of course, is its scenery of cliffs and sea. The castle and its rock, with its historic and prehistoric associations, and the old churches on the westernmost cliffs of this almost westernmost coast looking straight over to

Labrador, may be left to the guide-books. The cliffs, dark and steep and high, on a scale scarcely to be equalled in any other part of England, afford infinite "harvests" for "a quiet eye," and at some points a grand view of the Atlantic horizon, with a characteristic coast line of thirty or forty miles. The cliffs are of infinite variety, but all bold and precipitous, befitting the office they serve of breakwaters to the magnificent seas by which they are so splendidly assaulted on the smoothest summer days. They are backed by downs altogether worthy of the sea. These downs are covered with fine grass, heather, gorse, and wild flowers in great variety, affording the amplest field for the botanist, the sketcher, or the mere walker who finds his rest and recreation in the open, undulating hills rising at points to 1000 ft. and with "the chartened winds beating about him." The prevailing winds are south-west, but the warmth is tempered by the sea breeze, which rarely fails one on the cliffs. Among walks so exquisite and so varied it is almost invidious to single out any for special praise; but that to Trebarwith, including Backways, to Boscastle by the cliffs, and a visit to the Rocky Valley at the hour of high tide, and to the Tintagel Willapark, cannot go unmentioned. The visitor is within an hour's drive of the mountains to be ascended, Row Tor and Brown Willy, of the slate quarries of Delabole, &c.

There is only one drawback to the charm and merit of this district considered as a health resort. But it is a serious one. It admits of easy remedy, or would do so if the easy-going, good-natured inhabitants were not too contented with their natural environment. I refer to certain grave sanitary defects, and especially to the want of drainage and of a sufficient and pure water-supply. Drainage is not regulated by any by-laws of the sanitary authority. The district abounds in natural springs, the water from which in its pure state is exquisitely pure and good. Wells are to be found everywhere, almost at every house. The temptation to use these is irresistible, as fetching water from a distance means either trouble or expense. Yet many of them are liable to the most obvious and coarse contamination. Boscastle, I believe, has already selected a source of unobjectionable water and is on the point of receiving it. In Trevena, too, the principal village of Tintagel, the water-supply is for the most part good. But the outlying houses, apart from the larger villages, depend on local wells and springs exposed, as already said, to many sources of filth. Accordingly one is not surprised to learn that in certain houses typhoid fever and diphtheria have asserted themselves with an unpleasant emphasis. The incidence of such outbreaks has been typically vivid in its significance of intensely local causes. They have been sharply limited to a few houses or to those having a connexion with them. As far as I know, they have never affected visitors, but have been confined to the inhabitants who most resist the elementary lessons of public and domestic health. What is almost more discouraging than such occurrences is the inadequate perception of their significance by the inhabitants affected, of the most decent and even religious character, but too ready to attribute to the will of God evils altogether in their own control. In one house, or in connexion with it—that of a leading and most useful inhabitant—as many as seven cases of typhoid fever occurred over a period of years. He was a most active member of the district council and shut his eyes to the lesson of successive cases on or connected with his premises. At last, and quite lately, he himself was attacked. He was then convinced and declared that when he recovered he would see to putting things right. But it was too late. He succumbed, partly from organic complications,—the only fatal case of the series, most or all of which might have been prevented. Such evils could be easily removed with a little more public spirit and local intelligence in regard to the causation of disease. But these are plants of slow growth in sequestered spots like this. The only hope of amendment is in the immediate reform of the sanitary administration. The medical officer of health for Tintagel and Boscastle holds his responsible office at a salary of £12 a year. But the £12 a year is the whole salary for acting as medical officer for seven parishes, with deduction for income-tax &c.—that is to say, at the rate of about 35*s.* per parish per year. The arrangement is a mockery in all its aspects, disrespectful to the holde rof the office, and inconsistent with public health. It must indefinitely postpone the development of this delightfu district as a health resort. Throughout Cornwall, I believe, the same arrangement holds. What is wanted is the appointment of a medical officer of health for a large district or for the county, excluded from private practice, and with a proper salary. I have every reason to believe that such an arrangement would be approved of by the local practitioners. Every consideration should dispose the inhabitants to acquiesce in such a reform and in the rigid administration of sanitary law. Without these they are liable to the most tragic occurrences of disease in their own homes and cannot hope to see that prosperity of the district as a health resort which would surely come if the evils I have felt it my duty to point out were removed. The great majority of parishes in Cornwall, thirty-one out of thirty-six, have adopted the Notification Acts. But these are only a means to an end, and will of themselves neither isolate nor prevent disease. In the Tintagel and Boscastle district there is neither an isolation hospital nor disinfecting apparatus.

## II.—IN THE TYROL.

THE Tyrol may be conveniently approached either by way of Munich and Innsbruck, or through Constance and the Arlberg Tunnel, or from Venice. For various reasons unnecessary to specify we chose the third of these routes, and after a rapid journey found ourselves once more in the mysterious City of the Lagoons. Venice may be fairly reckoned among those few things in the world which are absolutely unique. It is unique in its situation, unique in its history, and unique in its vast accumulation of artistic wealth. It is not, indeed, unique in its fate, for other great cities have suffered an even greater fall. But that fate is sufficiently pathetic. Venice is now a second-rate provincial town of Italy, with an empty harbour and a mendicant population. Yet

> "Once did she hold the gorgeous East in fee."

Time was when she "sate in state, throned on her hundred isles." Now she is a discrowned queen. But her charm remains unaltered, if not, indeed, deepened by the irony of history. The Doge's palace stands erect in all its splendour, and the masterpieces of Tintoretto and Paul Veronese still look down from its walls, recalling the regal past and challenging comparisons with the present. St. Mark's is still there, glittering within and without with the spoils of the East and the West, and bearing testimony to the pomp and magnificence, if not to the piety, of the generations that are gone. The tides of the Adriatic still flow under the Rialto, and one thinks of Antonio and Shylock, of Desdemona and the Moor, and feels that the creations of the mighty magician are hardly less substantial than the warriors and statesmen who sleep their last sleep in the Frari or the Church of San Giovanni e Paolo. But it is on the Lagoons that one realises most fully the special charm of Venice. To drift in a gondola in view of St. Theodore and the Lion of St. Mark, while a light breeze is setting in from the Adriatic and the fishing boats are coming up from Malamocco, to listen to the chime of many bells across the still waters, and to watch the declining sun making a glory in the West—this is sufficient to stir the most sluggish blood and to fire the feeblest imagination. Although it was August we found the temperature by no means oppressive. The breeze from the sea seldom failed, the constant wash of the tide seemed to preserve freshness and purity in the canals even in the dog-days, and the charming sea-bathing at the Lido was compensation for an occasional hot hour or an infrequent mosquito bite. Our countrymen were conspicuous by their absence, but there were many Italian visitors and some Americans. At night the Piazza of St. Mark's presented a gay appearance, the whole population turning out to enjoy the evening cool to the strains of excellent military music. Venice is indeed the paradise of the pleasure-seeker. Her silent waterways, where the only sounds are the chimes of bells or the warning calls of the gondoliers, her majestic but half-empty churches, her palaces and galleries, her petty industries and innumerable beggars—all these seem to make existence a mirage, work a delusion, and energy an anachronism. "It is impossible to take life seriously here," said a friend to the writer, and truly in Venice Anglo-Saxon vitality and progressiveness seem a sort of solecism. To enjoy the luxurious present and to dream over the magnificent past—this seems natural and fitting in Venice, and the holidaying tourist in search of rest and

refreshment will find few places so well adapted for his purpose.

Leaving Venice by the evening train we found ourselves traversing a rich plain covered with vines and mulberries, orange and lemon trees, maize and olives. It is afflicting to think that poverty should be rife among a people to whom Nature has been so lavish in her gifts. With a proper agriculture and a wise Government, Italy should be one of the richest and most prosperous of countries. Late at night we arrived at Belluno, at the foot of the Alps and near the entrance to the Val d'Ampezzo, by which we proposed to enter the Tyrol. On the following morning we started by diligence for the long drive to Cortina in the Dolomite region. The weather was magnificent, and the scenery soon became Alpine in character. We were ascending the picturesque bed of the Piave, now in these August heats a tiny stream creeping over white sands towards the Adriatic, but showing traces all round of winter turbulence and widespread devastation. On either hand arose Alpine heights dark with pine and clothed with rich forests of birch and castagna. In a few hours the first peaks of the Dolomites began to raise their quaint pinnacles and minarets above the surrounding mountains, announcing our approach to a region of remarkable geological formation and of exceptional interest. In the afternoon we halted for a brief space in the little village of Pievè-di-Cadore, the birthplace of Titian, which occupies a magnificent situation high above the steep valley of the Piave. A statue of the great painter stands in the little piazzi, in one of the houses of which he first saw the light. Ruskin's persistent depreciation of Titian is puzzling to the tourist in Italy who can boast of nothing more than an amateur's knowledge of art. To the unsophisticated eye his paintings seem to possess a felicity of design, a grace of arrangement, and a richness of colouring hardly surpassed by Raphael or Rembrandt. That he does not touch the supreme heights of inspiration and that his pictures lack the special note of sanctity may be admitted, but what great merits remain, what power, what grace, what versatility. The facts that Titian is a universal favourite and that his masterpieces are found in every great collection are surely decisive proofs of his true greatness. He has deeply touched—*pace* Ruskin—the general heart of humanity. In art, as in most things, it remains true that "everybody is wiser than anybody"—*Securus judicat orbis terrarum*. Late at night we reached Cortina.

Cortina is grandly placed in the centre of the Dolomite country. The monarchs of the Dolomites stand around—Tofana, Cristallo, and Sorapiss—all fine peaks from 10,000 to 11,000 feet in height. These mountains will not compare in height or in expanse of snowfield and glacier with the giants of the Bernese Oberland—the Jungfrau, the Eiger, and the Fuisteraarhorn—or with the still loftier summits of the Pennine Alps, but they have a special character and a peculiar beauty of their own. They are composed chiefly of magnesian limestone, and they are remarkable for their jagged outline and serrated summits. One of the most noteworthy of these is the Drei Zinnen, not far from Cortina, which resemble three vast cromlechs piled heavenwards. These mountains are difficult of access and present to the mountaineer all the worst problems of rock climbing in their acutest form. But they have all been overcome, for in these days nothing daunts the climber and nothing stimulates his ambition so much as an untrodden and presumably inaccessible peak. We did some modest climbing among these Dolomite Alps, nothing heroic or dangerous, but sufficient to get a glimpse of their beauties and to form some estimate of their dangers. One is struck with the contrast between the bare and precipitous peaks and the smiling and luxurious valleys at their base. In these southern regions of the Tyrol the general aspect is that of Italy rather than Austria or Switzerland. The varied colour and rich luxuriance of the valleys that slope up from the plain of Italy, the soft air and azure sky, the complexion and tongue of the inhabitants—all speak of the south. Although in Austria, we are still to the south of one of Nature's physical and moral watersheds. Only the gaunt peaks of the Dolomites remind us that we are in a region geologically *sui generis*, though the Government is Austrian and the tongue Italian. On our return from one of our excursions at Cortina we enjoyed the sensation of a heavy Alpine thunderstorm. The morning had been fine and hot, but lowering, and about four o'clock, when we were tramping on foot from Schluderbach towards Cortina, the sky suddenly darkened, there was an ominous muffled roar towards the south, and in a few minutes the storm burst furiously over us. The lightning flashed incessantly, now in magnificent sheets, again in ghastly zigzags; the thunder hurtled and crashed and reverberated, awakening symphonies of Titanic music amidst the rocky fastnesses of Monte Cristallo and the Croda Rossa; the rain descended in solid cataracts. There was no shelter, so we trudged on, not without some inward qualms, but determined not to show the white feather. Nearer and more fierce grew the tumult, until at last with one final explosion, as if all the ironclads of the world had poured a broadside into all the china-shops extant on this planet, the storm seemed to have exhausted its violence and retreated with angry rumblings towards the north. We reached our hotel tired and wet to the skin, but uninjured.

From Cortina we went by a somewhat circuitous route to Meran, and found that charming health resort entirely out of season and dull to a degree. As a matter of fact, we had arrived at quite the slackest of the slack-water period. Meran has a grape cure in autumn, a milk and whey cure in spring, and is a favourite sanatorium for pulmonary invalids in winter, but in the height of summer it is deserted. The town is charmingly situated amid vine-clad mountains, and shelter is excellent on all sides except towards the south, where the broad valley of the Adige opens up towards Italy. The climate is sunny and dry and on the whole mild, but the winters are cold as compared with those of the Riviera, Malaga, or Palermo. The elevation is 1050 feet, and the climatic conditions may be loosely reckoned as in some sense resembling those of Montreux. It is, perhaps, hardly fair for one who has no practical experience of the grape cure or the milk cure to offer any criticism upon those methods of treatment, but it is a little difficult to take either one or the other quite *au grand sérieux*. That for many persons who have eaten and drunk not wisely but too well to live for a few weeks chiefly on grapes or whey might be most desirable is true enough, but this is hardly serious scientific treatment As a winter resort for the phthisical Meran is well worth attention, but its merits are, perhaps, sufficiently well known. It is a good example of the sheltered, sunny, dry, somewhat elevated, and moderately tonic resort. Cases that find Davos or St. Moritz too severe might do well at Meran. The surroundings are most attractive and the accommodation excellent.

From Meran we pushed on for the Great Ortler, the great goal and object of ambition to all tourists with mountaineering tastes who visit the Tyrol. This superb mountain is one long day's drive from Meran, and mountaineers may elect to stay either at Sulden or at Trafoi on the Stelvio route. We chose the latter and found comfortable quarters at the Hotel de la Poste. Soon after arrival we completed arrangements with two Tyrolese guides to start on the following afternoon for the ascent of the Great Ortler. This mountain, which is just under 13,000 ft. in height, is one of medium difficulty and danger. While free from avalanches and almost free from falling stones, and presenting no special feature of peril, it is not a mountain for the novice in climbing. It is steep almost throughout, much of the climbing consists of steps cut in a precipitous ice wall, and several of the *arêtes* call for a steady head and practised nerves. But for the mountaineering expert, accompanied by good guides, the Great Ortler is an easy mountain. We left our hotel at Trafoi about 2.30 o'clock in the afternoon, and, crossing the brawling Trafoierbach at once, began the steep ascent through pine woods. It was an August afternoon, hot and sultry, and heavy masses of clouds wreathed themselves round the higher peaks, rendering the meteorological prospect somewhat doubtful; but our Tyrolese guides were sanguine on this score, so we braced ourselves for the considerable effort before us. Our intention was to go on the first evening only so far as the Payerhütte, a hut erected on the Great Ortler by the Austrian Alpine Club at an elevation of about 10,000 ft. The first two or three hours of an ascent are in some respects the most trying. One has not quite escaped from the hot air of the valleys, and the heart and lungs have not fully accommodated themselves to the altered mechanism rendered necessary by the increasing rarefaction of the air and the severe muscular efforts. It is a cardinal rule of mountaineering to proceed very deliberately at first, and never to allow palpitation or dyspnœa to get the mastery. The guides plod on usually in silence, most watchful at all dangerous points and ready and expert in giving the needful aid. After nearly two hours of steep and continuous climbing we emerged from the pine

forests and entered upon a long track of stone and rock. Already we had attained a considerable elevation, and the vistas became every moment more extensive and impressive. At a prodigious depth below our feet lay our hotel at Trafoi, and so steep was the ascent that it seemed almost as if a stone might be dropped upon it. In another hour, at an elevation of about 9000 ft., we first touched snow and began the passage of the first glacier of the Great Ortler. This safely surmounted, a short reach of severe rock climbing brought us to the Payerhütte about nightfall. Here we found a numerous party of Austrians and Tyrolese guides assembling with a view to the ascent next morning to the summit. Great was the anxiety about the weather. The night closed in ominously enough: the sun sank luridly behind great banks of clouds in the west, shooting out a few parting rays to illumine the peaks and snowfields of the Tyrol, great masses of mist began to surge up from the valleys, and we retired to our narrow quarters in the hut in rather a desponding mood. Next morning we were on foot shortly after 5 o'clock, and were agreeably surprised to find that the weather prospects, though still doubtful, were encouraging. The prospect from the Payerhütte at this hour was most imposing. The sun was rising over the Eastern Tyrol, and peak after peak was struck by his brilliant beams. The view embraced the Ortler Alps, most of the Tyrol, the Bernina chain, the Engadine region, and the highlands of Bavaria. The air was keen and crisp and the thermometer at the door of the hut marked 5° below Zero (C.). After some light refreshment we were roped to our guides, and the last and most difficult stage of the ascent began. From the Payerhütte to the summit of the Ortler is a steep ascent of 3000 ft. over snowfield and glacier. The guides go in front, cutting steps in the ice and snow as may be needful, and the mountaineer follows cautiously in the rear. There are many places where a serious slip would be immediately fatal, but with great care and sufficient physique and nerve the dangers are probably moderate. The panorama was extensive and magnificent, but at above 11,000 or 12,000 ft. the distant views became indistinct and one was conscious only of a vast expanse of mountain and valley and distant plain. We reached the summit at 9 o'clock, but found it in cloud. After a short rest and some refreshment we began the descent, and reached our hotel in Trafoi at 2 o'clock in the afternoon without mishap. We drank some milk and brandy and went straight to bed. After a short sleep we rose and dined, and we can commend this plan to mountaineers. To eat a full meal when in a state of extreme fatigue is a great blunder. Our experience also inclines us to the view that one should be most sparing in eating and drinking during the actual ascent, and that alcohol should either be avoided or taken in great moderation; cold tea is refreshing and safe; on the other hand, when the fatigues of the ascent and descent are over alcohol is invaluable as a restorative.

From Trafoi we proceeded to Laudeck by the beautiful Frustermünz Pass, the Great Ortler grandly dominating the landscape for many miles; from Laudeck to charming Innsbrück, and thence to England by Munich and the Rhine. The Tyrol forms an almost ideal holiday resort. The scenery is in a high degree varied, interesting, and beautiful; the accommodation is, on the whole, excellent and cheap; while the people are frank, intelligent, and obliging. True, the Tyrolese *Jodel* has to be endured, but where is the rose that is quite thornless?

## REPORT OF THE COMMISSIONERS IN LUNACY FOR SCOTLAND FOR THE YEAR 1894.

ON Jan. 1st, 1895, there were 13,852 insane persons under official cognisance in Scotland. Of these, 2138 were maintained from private sources, 11,660 by parochial rates, and 54 at the expense of the State. With regard to the distribution of the insane in the different classes of establishments and in private dwellings, the following differences appear in the manner of distribution of registered lunatics at Jan. 1st, 1895, when compared with what it was at Jan. 1st, 1894. In royal and district asylums there is an increase of 87 private patients and an increase of 222 pauper patients. In private asylums there is a decrease of 6 patients. In parochial asylums there is an increase of 112 pauper patients. In lunatic wards of poorhouses there is an increase of 7 pauper patients. In private dwellings there is an increase of 5 private patients and an increase of 112 pauper patients. Tables I., II., and III. (Appendix A) show the number of patients, the manner of their disposal, and their proportion to population and to ordinary pauperism at Jan. 1st, 1895, as compared with previous years.

The general results during 1894, as compared with 1893, are, in regard to registered lunatics, as follows: 1. There was a total increase of 539, of whom 87 were private patients and 452 were pauper patients. 2. Of the total increase of 539, the increased number in establishments was 422 and in private dwellings 117. 3. Of the increased number of 422 in establishments, 82 were private patients and 340 were pauper patients. As the average annual increase in the number of private patients in establishments in the five years 1891–95 has been 49 and of pauper patients 206, the increase in the number both of private and of pauper patients in establishments during the last year has been considerably above the average annual increase of the quinquenniad. 4. All pauper lunatics in establishments continue to be provided for in institutions of a public character.

The increase of 452 in the number of pauper patients is stated to be the largest that has taken place in any one year since the Board of Commissioners entered on its functions in 1858. Mention is made of the localities in which the increase has chiefly occurred, and it appears that of the total year's increase 56 per cent. were contributed by the following counties, all of which have large urban centres of population: Aberdeen, Edinburgh, Forfar, Lanark, and Renfrew; 15 per cent. by counties having smaller active industrial centres, either towns or rural mining districts—namely, Ayr, Dumbarton, Linlithgow, Selkirk, and Stirling; and 18 per cent. by three large and purely Highland counties: Argyll, Inverness, and Ross. The Commissioners point out, however, that in the first two groups of counties the population is increasing, and that the increase in the number of pauper lunatics is therefore to some extent, though not to a large extent, due to increase of population. But in the three Highland counties named the population is falling, and the increased numbers of pauper lunatics in these counties which have come upon the register must, therefore, be ascribed wholly to causes other than increase of population. The Commissioners, in seeking an explanation of this increase in the Highland counties, refer to the change in social conditions and views of life even in these remote parts, where insane persons now placed on the register would formerly have been kept at home, and where the inhabitants are now ready to acquiesce in or even to urge their removal to asylums. Again, where they do not remove insane members of the community to asylums there is shown an increasing readiness on the part of relatives to claim the State contribution in aid, registration thereafter becoming a necessity. The table of admissions discloses the facts—(1) that the number of private patients admitted during last year was 515, being 16 less than during the preceding year and 19 less than the average for the quinquenniad 1890–94; and (2) that the number of pauper patients admitted was 2661, being 148 more than the number during the preceding year and 233 more than the average for the quinquenniad 1890–94.

There were 197 private patients discharged recovered during the year, and this number was 27 below the number for 1893 and 13 below the average for the five years 1890–94. The number of pauper patients discharged recovered was 1130, or 55 below the number for the preceding year and 58 above the average for the five years 1890–94. The number of private patients who died in establishments during 1894 was 106, which is 38 less than in 1893 and 27 less than the average of the five years 1890–94. The number of pauper patients who died was 712, which is 11 less than in 1893 and 7 below the average of the five years 1890–94. With reference to the number of patients liberated on probation the Commissioners state that of the 4010 patients so liberated since 1862 801 were replaced before the expiry of the period of probation, but they add that they "continue to be of opinion that in some establishments a more frequent application of the probationary discharge to patients whose fitness for residence in private dwellings may be uncertain would probably lead to a larger number of permanent discharges than takes place at present." This is very true; but we always feel that unless the surroundings into which the patient is discharged are well adapted for his proper care and supervision the risk of premature discharge is one that ought not lightly to be run.

The whole number of escapes during 1894 was 236. Of

these, 131 were brought back within twenty-four hours, 63 within a week, and 17 after a week; 25 were not brought back during the currency of the Sheriff's order or the certificate of emergency on the authority of which they had been detained. Of the 25 patients not brought back 4 were removed from the asylum registers as recovered, 10 as relieved, 7 as not improved, 2 were permitted to remain out on pass or probation, 1 was drowned, and 1 committed suicide by hanging. The two latter occurrences are referred to under the heading "Accidents in Asylums." The following statement shows the comparative expenditure for pauper lunatics since the quinquenniad 1859–63.

| — | Annual expenditure per patient. | | | |
|---|---|---|---|---|
| | In asylums including institutions for imbecile children. | In lunatic wards of poorhouses with restricted licences. | In private dwellings. | Total. |
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| 1859–1863 ... ... | 23 17 3 | 17 11 7 | 8 13 1 | 18 11 6 |
| 1864–1868 ... ... | 24 8 4 | 19 13 1 | 9 15 11 | 20 6 1 |
| 1869–1873 ... ... | 25 0 1 | 17 17 4 | 11 1 9 | 21 16 6 |
| 1874–1879 ... ... | 26 19 5 | 20 15 3 | 12 13 11 | 24 6 5 |
| 1880–1884 ... ... | 26 7 4 | 19 14 8 | 14 2 1 | 24 5 5 |
| 1885–1889 ... ... | 25 16 6 | 19 1 0 | 15 6 7 | 23 12 5 |
| 1890–1894 ... ... | 25 1 10 | 19 1 1 | 16 0 5 | 23 5 3 |

The Commissioners speak in very favourable terms of the general condition and management of establishments for the insane. The Deputy Commissioner, Dr. Lawson, reports as follows on patients in private dwellings. "Another year devoted to the inspection and supervision of insane persons living under domestic care in Scotland confirms in my mind two opinions which I have formerly expressed. The first is that the method of retaining or recalling from institutions suitable insane persons to share in the benefits of private life has a rational justification in the social instinct from which springs the desire for a specific home and a circle of habitual associates. The second is that prolonged experience shows that in Scotland a large percentage of those who are registered as lunatics can, from the first or at a later stage of their malady, be provided for and treated in private dwellings in a manner which yields results satisfactory to themselves, and which causes little, if any, departure from the current of daily life of the families and the communities in which they are placed. In short, the system of providing in private dwellings for properly chosen patients has the sanction of an elementary instinct; it acts as a boon to many of the insane as well as to the ratepayers, and it causes no appreciable interference with either the performance of the duties or the enjoyment of the privileges of the general public."

The Commissioners record their great regret at the retirement of Sir Arthur Mitchell from the board, and they pay a well-deserved tribute to the leading part that he has taken in the institution and development of the system of lunacy administration as it now exists in Scotland.

## THE MANCHESTER MEDICAL CRICKET CLUB.

LOVERS of the national game will be gratified to hear that the Manchester Medical Cricket Club has prospered during the season which has just closed. It has about 120 members, medical men and students, and is in the sixth year of its existence as a regularly constituted club with president, vice-presidents, committees, &c. Its history dates back for about eight years, during the first two of which several matches were played, but in these early days its programme was less ambitious than it now is. The club's expansion since it has been conducted on the present lines is very marked, and affords a happy illustration of the readiness of medical men to coöperate with one another in availing themselves of opportunities for healthful recreation and the cultivation of social amenities. Of late years as many as eight or ten matches have been played in the course of a season against such opponents as the Clergy, the Law, Cheadle Asylum, Prestwich Asylum, and the Liverpool Medicals, to which must be added Past *versus* Present matches. The contest with the Liverpool Medicals has become the event of the year, and takes place alternately at Old Trafford (Manchester) and Aigburth (Liverpool). This year it was played on the picturesque ground at Aigburth in splendid weather and in the presence of a large gathering of medical men and their friends. The annual subscription to the club is five shillings for members of the profession who are players and half a crown for those who are not players and for students. Most of the playing members belong also to the county or local clubs and take part in matches against elevens from all parts of Lancashire, Cheshire, and Derbyshire. There is, therefore, but little inconvenience occasioned by the fact that the club has not yet acquired a ground. The Manchester clergy can make up a strong eleven, and their contest with those of Liverpool is generally very keen. The formation of medical cricket clubs in the larger centres of population is an excellent idea and a precedent worthy of imitation wherever circumstances permit. Perhaps some day inter-county medical matches may be played. The relaxation and change of scene provided by occasional visits to the cricket ground are welcome interruptions of the daily routine of practice, and, in addition to benefiting the health and the temper, they afford invaluable opportunities for the commencement of acquaintanceships and the promotion of general good feeling. Moreover, there is no dearth of capable players in our ranks, for the elevens engaged in county matches sometimes include members of our profession who, though far from approaching the exploits of the champion medical cricketer, nevertheless contrive to do good work for their sides. Our cricket-playing colleagues in Manchester, Liverpool, and Preston[1] have our hearty good wishes, and we sincerely hope that their respective clubs may long continue to flourish.

## POISONING BY SOUP AT WOLVERHAMPTON.

As our readers are aware,[2] several cases of illness and one death unhappily followed the use of soup distributed last August from the vicarage of Heath Town. At the inquest, which was concluded on Sept. 16th, the vicar's cook stated that on Thursday, Aug. 8th, she prepared the soup for the usual Friday distribution. The ingredients were a portion of a roast sirloin of beef cooked on the previous Sunday, some fresh loin of mutton, and part of a chicken that had been boiled on Thursday for the family dinner. These were cut into small pieces and boiled in an ordinary iron saucepan with the broth left after the cooking of the chicken. When the soup was ready the saucepan with its contents was set to cool on the stone floor of the adjoining scullery, and as the family were going from home it remained there in the uncovered saucepan until Saturday morning, when the distribution took place. She tasted it on Saturday and found it to be perfectly sweet and not fermented at all; no colouring was used in it. The scullery sink had an open pipe to the drain outside. The deceased woman, who was fifty-five years of age and married, warmed some of the soup at home in a tin saucepan, and it was consumed by herself and husband and their son and grandson. The same evening these four persons and five others, relatives and neighbours residing in the same street, who also had some of the soup, were seized with serious illness, purging, and vomiting. A medical man who was called in on Monday, Aug. 12th, found the deceased, her husband, her son, and four other persons suffering from vomiting, purging, and abdominal pains. He was unable to obtain a sample of the soup. The deceased expired on Aug. 17th, and the house physician at the Wolverhampton General Hospital, who made the post-mortem examination on Aug. 19th, said that the body was then in a high state of putrefaction, the face and hands

[1] THE LANCET, July 20th, 1895, p. 163.
[2] THE LANCET, Aug. 24th, 1895, p. 460.

being black, and he was unable to form any conclusion as to the cause of death. He sealed up the stomach, liver, kidneys, and spleen in jars. Two witnesses, mother and son, who received some of the soup from the vicarage, stated that it was very nice, and they experienced no ill-effects. Dr. A. P. Luff, lecturer on Medical Jurisprudence at St. Mary's Hospital, London, said that the viscera were forwarded to him on Aug. 23rd, and were free from mineral or vegetable poisons. The stomach and liver contained small amounts of ptomaines, but he could not say whether this was derived from the soup or from the decomposition of the viscera independently of the soup. Assuming that the poisonous matter was in the soup, the immunity of those witnesses who suffered no ill effects might, perhaps, be due to their having made it hotter than the other families did. The verdict was, "Death from syncope, the result of ptomaine poisoning, such poisoning being accidental."

## CHOLERA.

IN referring last week to the cholera prospects of this season we briefly summarised the facts so far as they were known regarding the prevalence of this disease at the present time. There has no doubt been a revitalisation or recrudescence of cholera in various countries and places abroad where the epidemic had already prevailed during previous years, but the renewed activity has happily not been manifested on any large scale. The occurrence of some suspicious cases at Grimsby naturally gave rise to some fears when viewed in connexion with the past history of that town. These were, however, soon dispelled when the results of the bacteriological examination became known and it was also found that the disease showed no signs of spreading.

At the present time, in addition to the officially reported prevalence of cholera in Russia and the existence of the disease in other countries bordering on the Russian frontier, cholera still seems to be prevailing in Tangier, where it broke out a short time ago. Six fresh cases and 9 deaths were registered at Tangier on the 17th inst., and the existing restrictions imposed by the Gibraltar Board of Health on arrivals from that place are maintained, a short quarantine having also been imposed upon arrivals from Ceuta and other ports on the Moorish coast. A serious cholera outbreak is reported at Algiers. The deaths from that disease are stated to have been forty-three on the 17th inst. With regard to the alleged outbreak of cholera at Honolulu no further intelligence has been received, nor has any additional news reached us from the East regarding the epidemic in China and Japan.

# Public Health and Poor Law.

## LOCAL GOVERNMENT DEPARTMENT.

### REPORTS OF MEDICAL OFFICERS OF HEALTH.

*Nottingham Urban Sanitary Authority.*—As an instance of the importance of measles as a factor in mortal statistics, Dr. Philip Boobbyer reports that during 1894 this disease caused more deaths than did scarlet fever, enteric fever, and diphtheria combined. Four schools were closed during the year under review in an attempt to check the spread of measles, but no good results from the action were, Dr. Boobbyer reports, apparent. The system adopted at Nottingham of paying for the persons exposed to small-pox during a period of sixteen days' quarantine has been found to work extremely well, and it has curtailed considerably the spread of the disease. In the matter of scarlet fever Dr. Boobbyer, as in former years, contrasts the hospital with the home fatality rate, that for the former being 2·7 per cent. and that for the latter 10·4. While admitting that part of the difference may be due to the fact that very severe cases are kept at home, Dr. Boobbyer considers that the chief factor has been the careful nursing provided at the hospital, together with the confinement to bed of all patients for a minimum period of three weeks. The meaning of the accompanying table is sufficiently obvious, and it will be of a special interest to our readers since we have on former occasions reproduced similar tables from Dr. Boobbyer's reports. The most noticeable feature in the figures is, perhaps, the high fatality rate amongst cases infected by those discharged from hospital, and in whom it might be supposed the power of infectivity was, if present at all, but feebly so. Dr. Boobbyer has noticed this point for some years past, and its explanation is by no means obvious. It may, perhaps, be that recurrent discharges from the nasal and oral passages of otherwise non-infective patients may possess a high degree of virulence and contain a septic element in addition to the specific element.

| Class of cases. | Number of cases. | Percentage of cases. | Number of deaths. | Deaths per cent. of cases. | Total death-rate per cent. |
|---|---|---|---|---|---|
| Hospital cases— | | | | | |
| (*a*) Primary ... ... | 771 | 66 per cent. of all cases notified | 17 | 2·2 | |
| (*b*) Secondary in houses from which (*a*) came within 21 days of their removal | 110 | 13·5 per cent. additional to (*a*) | 4 | 3·6 | 2·7 |
| (*c*) Secondary after return home from hospital within 21 days of return... ... | 41 | 4·5 per cent. additional to (*a*) and (*b*) | 4 | 9·7 | |
| Home cases— | | | | | |
| (*a*) Primary ... ... | 170 | 14·6 per cent. of all notified cases | 16 | 9·4 | 10·4 |
| (*b*) Secondary during progress of case at home ... | 60 | 35 per cent. additional to (*a*) | 8 | 13·3 | |

The Nottingham mortuary is not as highly appreciated by the public as such a building should be, but the fact that in this case it is situated in the immediate proximity of a refuse depôt is certainly a sufficient explanation of its unpopularity. From a material standpoint the locality is, perhaps, a fitting one, but a sanitary authority which neglects sentiment as a factor in human affairs must not wonder if their efforts are sometimes not appreciated. In the absence of a public abattoir efficient supervision of the meat-supply is not, Dr. Boobbyer remarks, possible, and as illustrating this point he refers to the case of Edinburgh, a town not much larger than Nottingham, but in which the amount of butcher's meat seized in one month frequently exceeds that seized during the whole year in Nottingham. During 1894 there were condemned in Nottingham 2057 stones of fish and 249 stones of "shell-fish"; of the latter 192 stones were mussels.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6156 births and 3917 deaths were registered during the week ending Sept. 14th. The annual rate of mortality in these towns, which had been 19·9 per 1000 in each of the three preceding weeks, declined again last week to 19·3. In London the rate was 15·4 per 1000, while it averaged 22·0 in the thirty-two provincial towns. The lowest rates in these towns were 11·7 in Plymouth, 13·1 in Norwich, 13·6 in Croydon and in Nottingham, and 13·9 in Bristol; the highest rates were 30·0 in Manchester, 30·8 in Hull, 32·7 in Blackburn, 33·5 in Burnley, and 37·5 in Sunderland. The 3917 deaths included 991 which were referred to the principal zymotic diseases, against 1072 and 1071 in the two preceding weeks; of these, 706 resulted from diarrhœa, 75 from diphtheria, 60 from whooping-cough, 58 from "fever" (principally enteric), 49 from measles, 40 from scarlet fever, and 3 from small-pox. The lowest death-rates from these diseases were recorded in Plymouth, Huddersfield, Swansea, and London, and the highest rates in Bolton, Burnley, Blackburn, Hull, and Sunderland. The greatest mortality from measles occurred in Blackburn; from whooping-cough in Norwich, Birkenhead, Bolton, Burnley, and Bradford; from "fever" in Sunderland; and from diarrhœa in Blackburn, Manchester, Bolton, Burnley,

Hull, and Sunderland. The 75 deaths from diphtheria included 55 in London, 5 in West Ham, 2 in Birmingham, and 2 in Burnley. Two fatal cases of small-pox were registered in London and 1 in Manchester, but not one in any other of the thirty-three large towns. There were 307 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 14th inst., against 342, 340, and 323 at the end of the three preceding weeks; 42 new cases were admitted during the week, against 65, 36, and 25 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2674, against 2507, 2512, and 2600 on the three preceding Saturdays; 365 new cases were admitted during the week, against 306, 264, and 336 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 102 and 134 in the two preceding weeks, declined again to 122 last week, and were 46 below the corrected average. The causes of 49, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Leicester, Nottingham, Bradford, Leeds, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Cardiff, Wolverhampton, and Norwich.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 16·6 to 17·5 per 1000, declined again to 16·9 during the week ending Sept. 14th, and was 2·4 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·7 in Perth and 14·9 in Leith to 18·5 in Dundee and 20·3 in Paisley. The 489 deaths in these towns included 61 which were referred to diarrhœa, 11 to whooping-cough, 9 to "fever," 5 to diphtheria, 4 to scarlet fever, and not one either to small-pox or measles. In all, 90 deaths resulted from these principal zymotic diseases, against 118 and 105 in the two preceding weeks. These 90 deaths were equal to an annual rate of 3·1 per 1000, which was 1·8 per 1000 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 78 and 74 in the two preceding weeks, further declined to 61 last week, of which 20 occurred in Glasgow, 10 in Edinburgh, and 8 in Dundee. The 11 deaths from whooping-cough showed a decline of 4 from the number in the preceding week, and included 8 in Glasgow. The deaths referred to different forms of "fever," which had been 10 and 4 in the two preceding weeks, rose again to 9 last week, of which 6 occurred in Glasgow. The 5 fatal cases of diphtheria exceeded the numbers recorded in recent weeks, and included 2 in Glasgow and 2 in Edinburgh. The deaths from scarlet fever, which had been 8 in each of the three preceding weeks, declined to 4 last week. The deaths referred to diseases of the respiratory organs in these towns, which had been 54 and 56 in the two preceding weeks, were 52 last week, and were 15 below the number in the corresponding week of last year. The causes of 26, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·6 and 22·2 per 1000 in the two preceding weeks, rose again to 25·4 during the week ending Sept. 14th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 23·4 per 1000, the rate during the same period being 18·9 in London and 16·5 in Edinburgh. The 170 deaths registered in Dublin during the week under notice showed an increase of 21 upon the number in the preceding week, and included 21 which were referred to the principal zymotic diseases, against 20 and 13 in the two preceding weeks; of these, 12 resulted from diarrhœa, 4 from "fever," 3 from whooping-cough, 1 from small-pox, 1 from scarlet fever, but not one from measles or diphtheria. These 21 deaths were equal to an annual rate of 3·1 per 1000, the zymotic death-rate during the same period being 2·9 in both London and Edinburgh. The fatal cases of diarrhœa, which had been 12 and 8 in the two preceding weeks, rose to 12 last week. The deaths referred to different forms of "fever," which had been 5 and 1 in the two preceding weeks, rose again to 4 last week. The fatal case of small-pox was the first recorded within the city during the past four weeks. The 170 deaths in Dublin last week included 43 of infants under one year of age, and 36 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons considerably exceeded the numbers recorded in the preceding week. One inquest case and 4 deaths from violence were registered; and 45, or more than a fourth, of the deaths occurred in public institutions. The causes of 16, or more than 9 per cent., of the deaths in the city last week were not certified.

## THE SERVICES.

### MOVEMENTS OF THE MEDICAL STAFF.

THE following officers have embarked in the *Britannia* for service in India:—Surgeon-Lieutenant-Colonel Brown, Surgeon-Major Lane, and Surgeon-Captain Durrant. The following officers are under orders to leave India at an early date for home:—Surgeon-Lieutenant-Colonel Blennerhasset and Surgeon-Major Smythe. Surgeon-Major Johnstone has embarked for India in the *Victoria*. Surgeon-Lieutenant Vaughan Williams has been transferred to Fermoy.

### INDIA AND THE INDIAN MEDICAL SERVICES.

The Queen has approved of the following promotion in the Indian Medical Service:—*Bengal Medical Establishment:* To be Brigade-Surgeon-Lieutenant-Colonel: Surgeon-Lieutenant-Colonel Charles John Walford Meadows (dated April 1st, 1895).

### NAVAL MEDICAL SERVICE.

The following appointments are announced:—Surgeons: A. E. Weightman to Haslar Hospital; F. J. Lilly to the *Katoomba;* W. A. Whitelegge to the Royal Marine Division, Portsmouth; W. J. Colborne to the *Icarus;* S. H. Youel to the *Ruby;* and E. C. Cridland to Devonport Dockyard. Surgeon and Agent: W. E. Dawson at Walton-on-the-Naze.

### VOLUNTEER CORPS.

*Artillery:* 2nd Northumberland (Percy) Western Division, Royal Artillery: Surgeon-Lieutenant J. S. Forrest to be Surgeon-Captain. 4th West Riding of Yorkshire (Western Division, Royal Artillery): James Black Milne, M.B., to be Surgeon-Lieutenant. *Rifle:* 6th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant J. Anderson, M.B., to be Surgeon-Captain.

### ENTERIC FEVER IN INDIAN CANTONMENTS.

We are extremely glad to learn that the sources of enteric fever in India are engaging the attention of Mr. Hankin, the energetic and able bacteriologist to the Government of the North-Western Provinces, whose labours in the cause of scientific hygiene and pathology are deserving of great praise. The theory held in Europe and this country of the dependence of enteric fever on a specific agent intimately associated with fæcal contamination of water, milk, soil, or air and with the presence of the typhoid bacillus discovered by Eberth and Gaffky rests upon a large and repeated number of observations, the cumulative effect of which amounts to very strong evidence. While it is admitted, however, that outbreaks of this fever in our Indian cantonments are frequently traceable to and acknowledge the same causes that they do in England, it is contended by many observers that we have not by any means exhausted our knowledge of the causation of enteric fever in India, and that the difficulties in the way of explaining the prevalence of the disease in that country are considerably greater than are commonly realised. Mr. Hankin says that the general excellence of sanitary arrangements in cantonments appears to him to make it improbable that enteric fever is, as a rule, due to any of the hitherto recognised sources of infection. The questions that have now to be determined are whether all the enteric fever of India is associated with the presence of a specific pathogenic bacillus, how that bacillus gains an entrance into the body, and what are the conditions of environment most favourable to its growth and spread. What we want is a systematically and carefully conducted series of observations by a skilled and impartial investigator, and Mr. Hankin can render no greater service to the cause of humanity and science than by devoting his best labours to the subject.

### REPUTED REMEDIES FOR SNAKE-BITE.

From time to time announcements are made with more or less confidence that an antidote for snake-bite has at last been discovered, but the efficacy of one and all fails to be established. The Anglo-Indian papers state that Dr. D. D. Cunningham of Calcutta has just published the results of an elaborate series of experiments which he has been conducting with the view of testing the claims of various reputed antidotes, but these results have proved disappointing, for the remedies have all been found to be utterly inefficacious, and a true antidote has yet to be discovered. It is said that Dr. Cunningham has demonstrated that a non-venomous snake, such as the dhamin, may be immune to the poison, thus raising a serious obstacle to the theory of auto-inoculation. It will be remembered that, acting on the hypothesis originally started by Surgeon-Major Waddell—viz., that venomous snakes are autotoxic—Professor Fraser of Edinburgh has been conducting a series of experiments to find an antidote by inoculation with prepared venom. The possibilities of securing protection by means of the serum of immunised animals have lately engaged the attention and been the subject of experimental observations in France by Calmette, and in Edinburgh by Professor Fraser.

# Correspondence.

"Audi alteram partem."

## "THE PHYSIOLOGY OF DEATH BY ELECTRIC SHOCK."

*To the Editors of* THE LANCET.

SIRS,—This subject, as Dr. Shettle says in the last issue of THE LANCET, is of deep interest and of great importance. I believe if we could understand it rightly it would give us the solution to many physiological problems. With your permission I would attempt to give a simpler explanation of the phenomena observed. That strong arterial contraction, and engorgement of the large veins and right side of the heart are present in death from electric shock cannot, I believe, be contested. The contraction of the arteries is unquestionably due to a physical cause, but I do not think with Dr. Shettle that this cause acts primarily on the contents of the vessels (blood being a conductor), but rather upon the badly conducting or insulating nerves and arterial centres. Faraday taught us long ago that the seat of the phenomena was not in the conductors, but in the insulating medium surrounding them. The electrical energy does not travel by the wire but by the insulating sheath or dielectric surrounding it; the function of the wire is to dissipate the energy crowding into it from the dielectric, which else would take up a state of strain and cease to transmit any more. The blood, fluids, and opaque tissues of the human body act as the conductors, or wires, and the transparent tissues as the dielectrics, and these transmit all the energy. This I have tried to explain elsewhere.[1] The kinetic electricity in traversing such tissues becomes static, resulting in a strain of the medium; the shearing stress of the current has altered the condition of the molecules; there is no displacement of the molecules as a whole, as has been pointed out by Professor Lodge,[2] but of their constituent atoms, and the stress, if strong enough, may result in electrolytic disruption. There is tension along the lines on which electricity is travelling and pressure at right angles to this. This is just the force that would narrow the calibre of the artery; this atomic displacement is most probably propagated along the nerve in the same manner as in the causation of muscular contraction. It is a spring-back force, and under normal conditions would stimulate at make and break of the current, but under the conditions we are considering the molecular structure has been so altered by death that there is no spring-back possible, the arteries remaining permanently contracted.

I am, Sirs, yours faithfully,

Cromer, Sept. 17th, 1895. HENRY MCCLURE.

[1] Transactions of the American Electro-Therapeutic Association, 1893.
[2] Modern Views of Electricity.

## MALIGNANT JAUNDICE IN CHILDREN.

*To the Editors of* THE LANCET.

SIRS,—My attention has just been called to an article by Dr. F. J. Smith on Cirrhosis of the Liver in THE LANCET of Aug. 31st, the text of which is the questioning of a case diagnosed by me as "malignant jaundice" and published in THE LANCET of Jan. 5th this year. Dr. Smith is of opinion that my case was one of "hypertrophic cirrhosis," a disease which he says is "exceedingly rare, usually occurring in quite young subjects and presenting typically a large liver and intense jaundice, with nervous symptoms prominent—in fact, just the picture Dr. Donkin draws of his case." Dr. Smith gives as his reasons for being prepared to admit the existence of such a disease as hypertrophic cirrhosis, first, the authority of Charcot and others, and, secondly, a post-mortem examination of the liver and spleen of a case reported to him from a distance. It may be fairly assumed, I think, that Dr. Smith has no further reasons either for his belief in hypertrophic cirrhosis or for his disbelief in the original diagnosis of my case. The existence of hypertrophic cirrhosis of the liver, with the changes usually described by pathologists, and marked clinically by enlarged liver and jaundice, with nervous symptoms prominent, need not be argued here. But, whatever its nature and definition may be, it is not an acute disease; it occurs mainly in adults and cannot be diagnosed during life except by a demonstration of enlargement of the liver. My case *was acute*, occurring in a child two years old; death took place in a little over three weeks from the onset of any illness and two weeks after the jaundice set in. The liver was *not enlarged* at all as far as clinical examination showed, for it was felt but one finger's breadth below the costal margin, as livers of healthy children two years old may be felt as often as not, and the upper limit of liver dulness was noted as "perhaps a little lowered." I do not desire to contend for the correctness of my diagnosis, for it was but based (a necropsy being disallowed) on analogical inference from two quite similar cases observed clinically by myself and examined post mortem by my colleague Dr. Hebb, who quite concurred in my view that these cases were examples of "malignant jaundice" or "acute yellow atrophy." I have reported them in some little detail in my book on "Diseases of Childhood." But I think I may contend that a careful study of my case, as reported in THE LANCET of Jan. 5th, in no way suggests the diagnosis of "hypertrophic cirrhosis," either as commented on by Dr. Smith or as usually described in the text-books.

I am, Sirs, yours faithfully,

London, Sept. 17th, 1895. H. B. DONKIN.

## "THE VOLUNTEER MEDICAL SERVICE."

*To the Editors of* THE LANCET.

SIRS,—I am obliged to Surgeon-Captain Sleman for his correction of my description of the new badge to be worn by regimental stretcher bearers while efficient, and which I have been instrumental in obtaining for the Volunteer force. The official answer to my application to the War Office on the subject reached me as I was on the eve of starting for the Continent, and having read it hurriedly I trusted to my memory when I addressed my letter to you from the South of France. The ground of the badge is to be white, containing the monogram "S.B." in blue and red enclosed within a red circle one inch and a half in diameter, which "will be worked in wool on cloth of the same material as the tunic." Hence my mistake. The original order for Volunteers to wear the armlet on the left forearm is not revoked, and I presume it will be employed when the bearers act as the stretcher section to their battalion, this new badge being simply a recognition of proficiency to be used in the ranks and identifying such men as are available for ambulance work when required.

I am, Sirs, yours obediently,

W. BAINES, V.D., M.D.,
Surgeon-Lieutenant-Colonel, 1st Middlesex Vol., R.E.

Headquarters, College-street, Fulham-road, S.W.,
Sept. 16th, 1895.

## "DEATH FROM VEGETABLE POISONING."

*To the Editors of* THE LANCET.

SIRS,—The paragraph under the above heading from your Manchester correspondent in THE LANCET of Sept. 14th is,

to quote from one of the sentences, "not quite satisfactory." There was no reporter present at the inquest, hence the meagre report in the *Manchester Courier*, whence your correspondent acknowledges he obtained his information. The symptoms were very fully described. There is no difficulty in examining the locality, and I shall be happy to show your correspondent round, when I have no doubt he will be satisfied as to there being a poisonous flora. There are two open spaces, both called Gorton Park, one of which is kept like any ordinary park, and is situated in Manchester, while the park into which deceased went consists of very rough land, partly waste, and is situated in Gorton. I had full notes of the case, which I destroyed only a day or two before your correspondent's paragraph appeared, and which I would have been happy to place at his disposal: but as his taking notice of the affair is rather belated I am deprived of the pleasure of satisfying his curiosity as to the symptoms, and can now only refer him to Taylor's Jurisprudence, where the description of henbane poisoning corresponds to what I observed in this case.

I am, Sirs, your obedient servant,

Gorton, Sept. 17th, 1895. B. W. MACARTHUR.

## "OVER-OPERATING IN GYNÆCOLOGY."

*To the Editors of* THE LANCET.

SIRS,—I have perused the correspondence on this subject with interest, great, but strongly mingled with regret that what has been said so often on the other side should have had so short a remembrance and should have made so little impression. As regards all novelties there are two notable tendencies in the human mind, the first being to run into too great extremes, and the other to resist all things that are new and to be obstinately satisfied with things as they are. Happy are those who can safely steer a middle course. I am curious to know why gynæcology should be picked out now as the special field for opprobrium. No reason has been given, and none can be shown, save that it is the newest field of progress. But it is not far to go back to the introduction of such simple proceedings as tenotomy, concerning which I am sure all of us over fifty can remember how the streets and the lanes were scoured for the squinting and the club-footed; how they were impelled to come in, and how many a decent eyesight which could have been improved by a proper set of lenses was irretrievably ruined by division of the internal recti tendons; how many a useful talipal foot was effectually lamed by unwise division of ligaments and tendons. The physician stands aghast at the apparent ease and certainty with which an operation is recommended and performed in cases which used to haunt his consulting-room for months and years, and the operating surgeon listens with ill-concealed impatience to the pleadings of the physician for a little more waiting, and another try at this, that, or the other form of expectant treatment; whilst there is a third party to the argument who boldly set forth their theories and practice, that whilst pus in the breast should speedily be evacuated, so long as it remains in the pelvis all is well. Of the last the less said the better; it is but a matter of time for their entire disappearance from the discussion. The question lies between the two former, and the pity of it is that both are covertly influenced by another failing of humanity, the difficulty of seeing the whole of a question, and possibly by the still lower motive and belief of the financial taint, each for himself and against the other. This has never been openly stated in the present issue save by Sir William Priestley himself. It was at a meeting of the Obstetrical Section of the International Congress in 1881, in the discussion of a paper which I read on Removal of the Uterine Appendages, in which Sir William said that he feared that in such operations there might be a tendency to recommend them under the influence of a prospective fee at the conclusion of the case. As an answer I told a story, the details of which were quite as well known to Sir William as to myself—a story which showed that the facts and conclusions run exactly the other way. We had under our joint care a lady who had a bleeding myoma and immense wealth. I had recommended removal of the appendages—a course not approved of by Sir William and not favoured by the patient and her friends, and therefore not pressed by me. The result was she remained under my care (occasionally, when death from hæmorrhage was imminent, joined by Sir William), and in bed most of the time, for about thirteen years, when the climacteric relieved her from her severe symptoms at the age of sixty-three or four. During that time her illness cost thousands of pounds, a proportionate share of which fell to the lot of Sir William Priestley and myself. If I had operated on her—with a bagatelle risk of 1·6 per cent. mortality—I should have had probably 150 guineas and Sir William about as much more at the end of a successful case (and I do not think that a fatality would have altered the amount), or somewhere about a fifth of what we actually did get.

If the financial motive is to govern us then I shall go in for tinkering with everybody, for prompt and speedy cures do not pay half as well, and the incident of every operation death involves a heavy financial loss. Let us suppose that the utmost of the charge made against operating gynæcologists is true, and that occasional errors, diminished rapidly by increased experience, have occurred by the performance of operations proved or believed afterwards to be unnecessary—are these more than the inevitable blunders inherent to everything that is human, especially in such a branch of life as surgery, which is in itself so hateful that nothing but wild enthusiasm would ever enable a man to follow it? Let the excess of zeal be corrected, but let it be by instruction in wisdom and righteousness, and not by abuse and ill-treatment. Let the correction be made by those who do not live in glass houses, and who may, therefore, have some likelihood of being able to throw stones without risk of retaliation. Such are certainly not the physicians whose utterances we hear of in anonymous articles, nor are they the authors of behind-the-back slanders. The operating surgeons can certainly lay against such the charge of acts of omission and neglect of canons clearly established, which acts tend to the most frightful disasters. Less than a month ago I waited daily for a summons to a distance to remove a suppurating ovarian tumour. The operation was postponed day after day by a physician who ruled that the patient was not fit for an operation so long as she had a pulse of 130 and a temperature of 104°F., and that we must wait till she improved in health. In vain I pleaded that a return of health was impossible so long as she had pints of pus in her abdomen, and, therefore, I was not surprised, but was exceedingly angry, to receive a telegram from the medical attendant, "—— died this morning." How long is this sort of thing to go on? How long is my reiterated question to remain unanswered, "Why is there to be one canon of surgery for the knee-joint and another for the pelvis?" My colleague, the physician in this case, would promptly have called in someone to evacuate pus if it had been found in the buttock, why should the mere presence of the os innominatum have induced him to prevent me doing the same thing when I found pus on the other side of it?

I could narrate a very long list of cases of this type—so long and ghastly a list that I am convinced that if every shred of gossip that has been uttered against every abdominal surgeon in England, and in order to swell that list thoroughly I will include myself, were true and thoroughly established, it would not weigh a stone against a hundredweight for the mischief done to surgery, to our patients, and to us by the persistent "Wait, wait, wait" of the tinkerers.

I am, Sirs, yours faithfully,

The Crescent, Birmingham, Sept. 14th, 1895. LAWSON TAIT.

## "BERI-BERI."

*To the Editors of* THE LANCET.

SIRS,—I have more than once drawn attention to the fact that though the above disease is very seldom seen in England yet it must be evident to all that year by year we hear of more cases. Various are the signs and symptoms and still more various are the treatments. Having seen some hundreds of cases in Upper Assam, to which place it had come by importation, a few words may be of use to junior medical officers either in Assam or on board ship. The first point noticed with those stricken with beri-beri was their "anæmic appearance," which did not yield to a treatment of iron or arsenic; the patient gradually became worse, fever, dropsy, and dysentery came on, ending in death. A post-mortem having been obtained after great difficulty, hundreds of worms were found in the intestines, but for the most part in the duodenum, these small thread-like worms being found in balls, one ball containing over 250.

The best treatment I found to be the exhibition of large doses of thymol, ninety grains or more—given in three doses of twenty grains, thirty grains, and forty grains respectively—in twelve hours, followed by ol. ricini if required. The natives called this the "puggla" or "mad medicine," on account of the sensations. All the motions were collected on muslin and washed, when hundreds of these little worms were to be seen. A few weeks on tonics and good food put the poor patient all right again. Ship medical officers on their voyage home from India and other hot climates should look well into any cases of anæmia amongst the native crew, as all who have any experience of coolies and their black brothers know how easy it is for drinking water to be infected by anyone suffering from this disease. I have some of these worms, and anyone wishing to see them can do so on writing to me.—I am, Sirs, yours truly,

A. WILBERFORCE SHEPERD,
September, 1895. Medical Officer of Health, Cowbridge.

## A WARNING.

*To the Editors of* THE LANCET.

SIRS,—May I state through your columns that it has come to my knowledge that a certain individual unknown to me has been sending begging letters signed with my name to various medical men stating that I have been suffering from nephritis and albuminuria and am in straitened circumstances, and asking that money should be sent to me at Great Ilford, Essex? The whole story is a fabrication, and I hope none of your readers have been taken in by it.

I am, Sirs, yours truly,
Micklegate, York, Sept. 17th, 1895. D. S. LONG, M.D.

## "SPECIALISM IN MEDICINE."

*To the Editors of* THE LANCET.

SIRS,—Specialists as a class aspire to a position of leadership in medicine, or, at all events, in certain branches of it. Nevertheless, "A Specialist," in THE LANCET of Sept. 14th, appears to justify acts of dishonesty on the part of his *confrères*, which he makes no attempt to deny, by bringing a countercharge of exaggeration against the rank and file of the profession. Nor does the case he cites necessarily support his charge. For, even assuming that he was right and the case was one of "simple sore throat," and not "diphtheritic," it does not follow that the "neighbouring practitioner" was not acting *bonâ fide* when he pronounced it the latter. Allowing, however, that "A Specialist's" construction of the incident was correct, it must be remembered that among so large a body of men as general practitioners black sheep are sure to be found. As to homœopathists, whose ways he quotes, these no more concern the present issue than do those of quacks.

I am, Sirs, yours faithfully,
Sept. 17th, 1895. A GENERAL PRACTITIONER.

## TYPHOID AND CONTINUED FEVERS AMONGST OUR SOLDIERS AND SAILORS IN THE MEDITERRANEAN.

(FROM AN OCCASIONAL CORRESPONDENT.)

THE following facts, which are believed to be as correct as they can be obtained otherwise than from official sources, are certainly suggestive both as regards the nature and the amount of illness which has recently been prevalent in the Mediterranean, and as to the manner in which the convalescents therefrom are sent home.

The Peninsular and Oriental steamship *Valetta* arrived at Plymouth on the night of Sept. 10th last, having on board a complement of some 300 persons, including the crew and numerous first- and second-class passengers. The *Valetta* was on a voyage from Bombay to London and after discharging some passengers at Brindisi had called at Malta on Sept. 3rd. She there took on board a number of so-called convalescents from the naval and military hospitals. These were brought to the ship in a large barge covered with an awning, and the majority of them were so ill that they had to be carried on board in cots. This work was done by a party of sailors detailed for the purpose from a man-of-war in the harbour. Amongst the invalids were four naval officers (all of whom were so ill as to require to be carried on board in cots), and the remainder were sailors and soldiers of various grades, seventeen in all. The four officers were accommodated in the first-class saloon cabins and the other invalids amongst the second-class passengers, of which the ship carried 120, nearly every berth being full. Almost without exception the invalids put on board had been suffering from fever, either typhoid fever or that form of continued fever known as Mediterranean fever. Of the officers three were admittedly recovering from true typhoid fever, as was probably also the case with the fourth.

The stimulating effect of the prospect of going home and sea air had speedily a beneficial effect on most of them. One officer improved rapidly and another was soon able to be on deck, though evidently very weak; but one was not able to leave his berth at all during the voyage, and another, though he managed to get up and walk with assistance on to the tender at Plymouth on Sept. 10th, had only been able to get on deck a few times previously. The invalided sailors also markedly improved in health. Cots were sent on the tender to meet the invalids landing at Plymouth, but were only used in the case of one officer. In this case the patient was in an acute stage of illness on the day of landing, with high temperature, &c. (104° F. the previous day), and other symptoms of severe relapse. The other invalided sailors, although looking very ill, had improved considerably on the voyage. The invalided soldiers went on to London. They did not appear to have improved so much. Those able to get on deck presented a miserable appearance, and four of them had been unable to leave their berths during the greater part of the voyage.

After discharging the invalided sailors and some passengers at Plymouth the *Valetta* proceeded to London and reached the Albert Docks on the morning of Sept. 12th. Even at that date two of the soldiers were very ill; one had only been able to get on deck on the previous day, and another had not been able to leave his berth at all since he was put on board at Malta. These soldiers did not know whether they were bound for Netley or where, though probably someone eventually met them on landing. As regards medical attendance and diet, the invalids were most carefully and ably looked after by the surgeon of the ship. The provision made for nursing in the case of the soldiers was *nil*, and the four who for a long time were unable to leave their bunks or wash themselves had to depend upon the good offices of their fellow sufferers or of the passenger stewards. The sailors (officers and men) were somewhat better off, as amongst the sailors invalided with fever was a naval sick bay steward from the *Ramillies*, who was really convalescent and who was of great service to those requiring nursing assistance and in directing the stewards upon whom the carrying out of various sick-room details necessarily fell, especially in the case of the invalid officers.

The above facts suggest two chief points for consideration. How far, having regard to the travelling public, is it justifiable for such cases to be transmitted in an ordinary passenger vessel, and how far is it proper for the sake of the patients themselves that they should be sent a voyage under such conditions? Although that form of continued fever from which the majority of the cases referred to above had suffered, and known variously as Mediterranean fever, Malta fever, typho-malarial fever, &c., has admittedly a very close resemblance to typhoid fever, and by some medical officers of experience is considered as identical with that disease, though modified by local climatic conditions, it is not usually considered communicable; there were, however, amongst the invalids carried on board at Malta undoubtedly several cases of true typhoid fever, and the natural history of this disease certainly indicates that it is most undesirable that those performing any office of nursing in such cases should have anything to do with food distribution except under very strict conditions of disinfection and precision in cleanliness. The use of the terms "convalescents" and "non-infectious fevers" gave a large amount of very salutary confidence to the other passengers in the vessel, but no precautions were taken to isolate any of the latrines, and the ship stewards, who were said to do various nursing

offices for the patients, handed food to the passengers at meal-times as usual, and although the ventilation of the Peninsular and Oriental steamships is most free and efficient the conditions of life on board a ship are necessarily more intimate than they would be on shore. Probably the risk of infection to other passengers was exceedingly remote, but what could not be carried out in the case of cholera without great risk should not be attempted in the case of typhoid fever and allied diseases. As regards the patients themselves, there can be no question that cases of acute disease, although approaching convalescence, should not be sent a voyage except under suitable and special conditions of accommodation and nursing, and then only when sufficiently recovered to bear the journey well. The admitted benefits, in cases of prolonged and tardy convalescence from continued fever, to be derived from a sea voyage and a homeward journey can then be most fully taken advantage of. The stimulating effect of the latter may be judged from the statement made on good authority that when it became known in Malta Hospital that a draft of invalids was about to be sent home the average temperature of the convalescent cases fell markedly.

As regards the health of the fleet generally, the hot weather of early autumn is the season when attacks of Mediterranean fever are to be looked for; but, unless current local reports have much exaggerated matters, there was an exceptional outbreak of true typhoid fever on several vessels of the fleet during its recent cruise in the Levant. Popular opinion in the fleet associates this outbreak with the prolonged stay in Boudrun Bay in the neighbourhood of Smyrna, where the fleet lay for some weeks and during the whole of July. Some ships suffered much more than others, and the *Collingwood* is said to have had upwards of 50 men attacked, of whom 7 died. When the *Valetta* left Malta there were 175 patients in the naval hospital, and every time the store ship returned from the fleet she was said to bring additional invalids. If these statements as to an extensive outbreak of undoubted typhoid fever be correct, doubtless some explanation and report will be forthcoming in due time.

## THE BATTLE OF THE CLUBS.

(FROM OUR SPECIAL COMMISSIONER.)

### THE SITUATION AT PORTSMOUTH.

THE question of medical aid for benefit clubs, always delicate and complicated, is fraught with an extra and local difficulty at Portsmouth. As a general abstract statement it may be said that when benefit societies were first organised and medical men lent willing aid to the work it was never foreseen that these societies would grow so rapidly and become the gigantic and powerful institutions that exist to-day. Then in very many cases the medical officer of such societies thought that if he attended the bread-winner on cheap club terms he would have the other members of the family as ordinary paying patients. Now, on the contrary, the benefit societies want the wives, the daughters, and even the infants to share in the benefits. Thus the hope of creating a general practice by doing club contract work would be reduced to a minimum, if not obliterated altogether. At Portsmouth the Manchester Unity, which is the largest branch of the Oddfellows' Society, now desires to admit children of both sexes from the age of three months. Actually, only male children who are three years old are admitted to medical insurance. They pay from 2*s.* to 2*s.* 6*d.* per annum according to the lodge. The men pay 4*s.* and it is proposed to form lodges for adult females at the same rate of payment. The Foresters and the Druids pay 4*s.* for males and 2*s.* for every child from three to eighteen years of age. The Manchester Unity wishes to admit children of both sexes from three months. One lodge proposes 2*s.* 6*d.* for infants from three months to three years, 2*s.* for boys from three years to eighteen years, 2*s.* for girls from three years to fifteen years, and 3*s.* 6*d.* for girls from fifteen to twenty-one years. After these ages the members would join the lodges for adults. The feeling in the medical profession is naturally very strong against the admission of women and children, particularly as the sum paid for the adult males is so small. The Manchester Unity has some 5000 members at Portsmouth, the Foresters 4000, and the Druids 1200. Then there is the Temperance Society of the Rechabites. The latter pay 3*s.* 6*d.* for adults and 2*s.* for children; and quite recently, without so much as consulting their medical officers, they decided to admit infants from the age of six weeks. Many of these Rechabites are shipwrights and dockyard artisans who are in receipt of good wages, live in comfortable houses, and formerly easily payed proper fees for the medical attendance given to their children. Now these same children are brought to the Society's medical officers, who have to attend to them for the meagre sum of 2*s.* a year.

Unfortunately, in resisting these encroachments the medical profession at Portsmouth are met by the special local difficulty to which I have alluded. The benefit clubs reply to all such objections by pointing to the Dockyard Medical Benefit Society, which takes in all the members of the families concerned, and argue that they must do the same. This Dockyard Society was started at Deptford some twenty-five or thirty years ago. Then when much of the shipbuilding work for the British Navy was transferred to Portsmouth the society was implanted in the Portsmouth Dockyard. None are admitted except persons who work in the dockyard, and the members pay ½*d.* per week for themselves and for each member of their families. The society is managed by the workers themselves and the whole of this sum is given to the three medical men engaged by this organisation. The society is well organised; the money is collected free of expense. There used to be a guinea fee allowed for accouchements; but some six years ago the society resolved to reduce this to 15*s.* and 7*s.* 6*d.* for miscarriages. All the three medical officers were also expected to meet in consultation without receiving any extra fee. No limit was put to age, and one medical officer told me pathetically that he had been asked to give club papers for the enrolment of a child three days old. Two of the medical men, Dr. Blackman and Mr. Goss, refused these increased burdens and resigned; but their places were quickly filled by other medical men, who eagerly accepted these posts. Some of the dockmen, however, sympathised with the medical officers who had resigned and formed another society, where the terms are more favourable to the profession.

The great question for the moment is how to prevent all the benefit clubs of Portsmouth from following the example of the Dockyard Society. Some of the medical men concerned have shown me their ledgers. These prove that men who only pay 4*s.* a year for medical attendance as members of clubs pay 2*s.* 6*d.* a visit to their club officer when he attends members of their family. One account showed that these visits amounted to £7 10*s.* in the course of the year. In other cases £2, £3, £5, and £6 were paid by members of clubs for attendance on their families. These sums are paid without complaint, and this makes it worth while to be a club officer. But all these advantages will be abolished if the families of members are also to be taken in by the clubs. A struggle is likely to ensue on this point, and the question arises, first, whether the medical profession at Portsmouth is sufficiently well organised to hold its own against the clubs, and, secondly, whether they will be loyally supported by the members of the profession outside Portsmouth. As already described at the last annual meeting of the British Medical Association, a Medical Union has been constituted at Portsmouth. Its president is Mr. F. Lord, who has a very extensive club practice in the town; the vice-presidents are Mr. James Green and Dr. Lysander Maybury. Dr. T. Frederick Pearse, 12, Norfolk-street, Southsea, is the honorary secretary; and Dr. J. G. Blackman, Poplar House, Kingston-crescent, Portsmouth, is the honorary treasurer. This union was formed to defend the interests of the medical profession, to encourage friendly relations between members of the profession, to enable them to obtain advice and united support, to facilitate interchange of views, and to secure combined action and consolidated influence when difficulties arise. Such is the general object of the union, but its particular purpose is, first, to "consider and take action upon the relations of medical officers with friendly societies and medical aid associations, and with regard to Poor-law and other official appointments; secondly, to establish, maintain, and circulate among members of the union a patients' black list; thirdly, to promote the improvement of medical fees."

These ends are to be attained, with regard to friendly societies, by the united action of the members of the Medical Union, so as to enforce a wage limit beyond which members

of friendly societies shall not be admitted to participate in medical benefits. It must be admitted that, under this heading, little or nothing has been done. Everyone acknowledges the necessity of a wage limit. Even the members of the friendly societies themselves do not deny the justice of this demand. But who is to define the wage limit, and on what principle is it to be established? Shall there be a difference between married and unmarried men? Undoubtedly a bachelor earning £1 a week is much better off than a married man with a family who earns 30*s*. a week. Then there is the more complicated question of constant employment. Here, at Portsmouth, men work in the Royal Dockyard for a smaller wage than they would earn in the same trade if working outside, but they have constant employment and pensions for old age. There is no risk of loss of employment through the fluctuations of trade, through fire, or the employer's bankruptcy; thus, taking an average of a life, the man who is paid 35*s*. in the dockyard earns more than the man whose wages outside the dockyard and for the same sort of work usually amount to £2 per week. How is the wage limit to be established in that case and who is to estimate the relative income of the two men? Supposing, however, answers can be found for these and many other similar questions as far as Portsmouth is concerned, is the Medical Union to establish a wage limit for Portsmouth alone without taking into consideration the state of affairs in other parts of the country? Already at Cork it has been proposed to fix the wage limit at £4 per week, but every medical man I have spoken to on the subject repudiates such a proposal and considers this wage limit far too high. As no town can fight its battle alone, but its action must be approved and supported by the medical profession throughout the country, a general consensus of opinion on this question of wage limit must be obtained.

The Portsmouth Union also proposes to enforce the medical examination of the new members of friendly societies and the payment of a special fee for such examination. Members of clubs who do not subscribe to the surgeons' fund and who require certificates are to be made to pay for such certificates. For instance, I had the case of a man who belonged to the Foresters' Society explained to me. He paid for the medical benefits as a Forester, but he wanted to join the Druids for financial benefits only. Before the Druids would thus insure him they wanted a medical certificate, and sent him to their medical officer, who was also the officer of the Foresters' Society. The latter obtained no fee for examining the man, and as he did not pay for medical benefits from the Druids the officer got no advantage whatsoever for examining this case and giving a certificate. The wife of this man was also sent to the officer to be examined before she was admitted to funeral benefits. Again the officer received no fee. Indeed, men constantly come for examination, they pay no fee, and there is no evidence to show that they are going to pay for medical insurance. If they are examined merely for financial benefits then the medical officer's work is absolutely unrequited. The Medical Union further urges that visiting members should not be allowed medical benefits except after a satisfactory medical examination. The Southsea district of Portsmouth is a health resort. Many old members of benefit societies, who have paid their subscriptions for many years in the business centres where they have lived and worked, retire in their old age and establish themselves at Southsea at that period of declining life and health when they are likely to require the most medical assistance. Because they belong to the same societies that exist at Portsmouth these so-called visiting members expect to be attended by the Portsmouth medical officer of their society. This throws an altogether unfair burden on such medical officers at health resorts or places where people go precisely because they are delicate, old, or ill.

The other objects of the Portsmouth Medical Union are to alter the tenure of office so that there should be a three months' notice on either side, to raise the rate of subscription for juveniles, and to obtain the united action of members of the union with regard to the admission of females to the medical benefits of friendly societies, but I have already dealt at length with these points.

The rules of the Portsmouth Medical Union are that every registered medical practitioner shall be eligible for membership on payment of an annual subscription of 5*s*. to cover working expenses. Besides the officials whose names are given above there is a committee of six members, and four form a quorum at committee meetings. Officers and committeemen are elected at each annual meeting, and the committee has power in the interval to fill up such vacancies as may occur. The committee is to meet once a month or oftener if necessary. On a requisition of six members a general meeting of the whole union must be called, but such meeting shall discuss no other question than that for which it was convoked. The most important rule is that which exacts a personal pledge from all members of the union that they will not oppose any practitioner "in any course of action which he may take with the concurrence of the committee in his official capacity concerning any public appointment." This does not implicitly pledge the members to improve their positions; but, as it includes cases where medical men resign their posts on a matter of principle, it will, if carried out, tend to greatly improve the conditions under which club work is done. There are some two hundred medical men at Portsmouth, but the majority are retired from the army or naval service. There are about eighty medical men in practice at Portsmouth, and they have all signed this pledge. All are therefore in honour bound not to accept any post which may be vacant because its former occupant has, with the approval of the committee of the Medical Union, resigned on a matter of principle. If, however, any member proves false to this pledge then "any member acting, in the opinion of a special meeting called for the purpose, contrary to the laws and regulations of the union shall, upon a majority of at least three-fourths of the members present, be suspended or expelled, and without appeal, from the advantages of the union." A fourteen days' notice must be given for the convocation of such a meeting. The great question remains whether such expulsion from the union will in itself be in all cases a sufficient deterrent to ensure implicit obedience on the part of all the members of the Medical Union. If so, then will not some medical men from other towns, who do not belong to the Portsmouth Union and who have not given any pledge, come and take the vacant posts? What in that case will be the action of the Portsmouth Medical Union? These questions show how necessary it is that medical unions should be national as well as local.

Portsmouth, Sept. 10th.

*(To be continued.)*

## THE FIFTH INTERNATIONAL CONGRESS OF OTOLOGY.

(FROM A SPECIAL CORRESPONDENT.)

THE organising committee, of which Professor Vittorio Grazzi is president, is in daily receipt of fresh "adhesions" to the membership of the Congress, and of those already sent in I may mention the following: Dr. Abery (Copenhagen), Dr. B. Alvarez (Madrid), Dr. Arsian (Padua), Dr. Ascensio (Spezia), Professor Avoledo (Milan), Mr. Baber (Brighton), Dr. Baratoux (Paris), Dr. Barkan (San Francisco), Dr. Barr (Glasgow), Dr. Bèco (Liége), Dr. Bobone (San Remo), Dr. Botey (Barcelona), Dr. Boucheron (Paris), Dr. Brieger (Breslau), Dr. Bronner (Bradford), Dr. Brunetti (Venice), Dr. Burnett (Philadelphia), Dr. Buscaroli (Imola), Dr. Capart (Brussels), Dr. Carralero (Madrid), Dr. Chincini (Rome), Dr. Coosemans (Brussels), Dr. Corradi (Verona), Professor Cozzolino (Naples), Dr. D'Aguanno (Palermo), Sir William Dalby (London), Dr. Daly (Pittsburg), Dr. Delie (Yprès), Dr. Delsaux (Brussels), Dr. Delstanche (Brussels), Dr. de Rossi (Rome), Dr. Dundas-Grant (London), Professor Ferreri (Rome), Professor Ficani (Palermo), Dr. Flatau (Berlin), Dr. Galetti (Milan), Dr. Garzia (Naples), Dr. Gellè (Paris), Dr. Goris (Brussels), Professor Gradenigo (Turin), Professor Grazzi (Florence), Dr. Grünwald (Munich), Dr. Hartmann (Berlin), Dr. Haug (Munich), Dr. Heimann (Warsaw), Professor Lannois (Brussels), Dr. E. Law (London), Dr. Lichtwitz (Bordeaux), Dr. Locatello (Pesaro), Dr. Lubet-Barbon (Paris), Professor Lucä (Berlin), Dr. Macnaughton-Jones (London), Dr. Martin (Paris), Professor Masini (Genoa), Dr. Menière (Paris), Dr. Mongardi (Bologna), Dr. Morpurgo (Trieste), Dr. Moure (Bordeaux), Dr. Okuneff (St. Petersburg), Professor Ottolenghi (Siena), Dr. Palazzolo (Catania), Professor Politzer (Vienna), Dr. Pritchard (London), Dr. Rattel (Paris), Dr. de Roaldes (New Orleans), Dr. Royat (Lyons), Dr. Rutten (Namur), Dr. St. Clair Thomson (London),

Dr. Schiffers (Liége), Dr. Secchi (Bologna), Dr. Secretan (Lausanne), Dr. Sexton (New York), Dr. Soffiantini (Novara), Mr. G. Stoker (London), Dr. Strazza (Genoa), Dr. Suarez-de-Mendoza (Antwerp), Dr. Sune y Molist (Barcelona), Dr. Szenes (Budapest), Dr. Verdos (Barcelona), and Professor Zufai (Prague).

The programme has been finally arranged and will begin on Sunday evening, the 22nd inst., at 9 o'clock, with a *réunion* in the house of the President, Professor Vittorio Grazzi.

On Monday, the 23rd inst., at 10 A.M., the Congress will be inaugurated in the Great Hall of the Istituto di Studi Superiori, followed by a sitting from 2 P.M. to 4 P.M., and in the evening there will be a concert given in honour of the Congressisti at the Circolo degli Artisti. On Tuesday (24th inst.), at 8.30 A.M., and at 2 P.M. there will be two sittings; at 9 P.M., a banquet at which the foreign Congressisti will be entertained by the President, Professor V. Grazzi. On Wednesday (25th inst.), again, at 8.30 A.M. and 2 P.M., there will be two sittings, and at 4.30 P.M. a reception at the Palazzo Comunale in the Quartiere Leone X. On Thursday (26th inst.), at 8.30 A.M., there will be a sitting, followed at 1.30 P.M. by another, at which the Congress will be formally closed. At 4 P.M., by special invitation of the Communal Administration, there will be an excursion, conveyed by special electric tram, to Fiesole; and at 7.30 a public banquet will be given to the foreign members of the Congress by their Italian colleagues and the citizens of Florence.

Concurrently with the Otological Congress there will also be held in Florence a meeting of the Italian Association of Laryngology, Otology, and Rhinology.

Florence, Sept. 14th.

## BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

### *Rowdyism Rampant.*

MANY complaints have lately been made from the suburbs of the city as to the bad behaviour of roughs and the wilful damage and destruction of property. Nor is the viciousness confined to the outlying districts. The city magistrates had a long day on the 16th inst. investigating charges of assaults upon policemen by various gangs. The favourite instrument of aggression is the buckled belt. Wielded with the facility of familiar use this becomes a formidable weapon, capable of fracturing skulls and doing grievous injury to the inoffensive and unarmed. Policemen are cautioned to use their truncheons with discretion, but in the midst of a conflict, often savage and unprovoked, human nature must necessarily assert itself in the interest of self-protection. The law should be strong in protecting the men who are employed to uphold its power. Light sentences produce but little deterrent effect, and fines are readily paid by the companions of the guilty. A recognition of the *argumentum ad hominem* should be more effectual in suppressing these cowardly attacks, the results of which give our hospitals much work and divert the sources of charity from the more deserving.

### *Cycling Dangers.*

The more general use of cycles brings with it certain dangers. Two instances of death from cycling accidents have lately occurred in this district, each from causes apparently accidental. In one the rider was thrown off his machine, falling under the wheels of a passing cab; and in the other the foremost rider of a tandem sustained a fracture of the skull which proved fatal. Care is evidently necessary as to speed, and attention to the accurate working of the machine. Trifling defects or inexperience place the riders in crowded thoroughfares in much danger, not to omit that incurred by the many pedestrians, whose movements add to the possble risks of both.

### *Paraffin Lamps.*

The old story of paraffin lamp explosions, in its repetition, emphasises the demand that some measures should be framed to make the danger less possible. Accidents of this kind are of almost daily occurrence, and yet could be easily prevented. As long as cheap lamps can be purchased they will be used and the danger will still continue. No amount of reiteration will be successful in the way of warning. The Legislature evinces a fostering care with regard to unhealthy trades and restricts the liberty of the subject in many wise ways. Why should it not pass some law with regard to the protection of person and property in this direction?

Sept. 17th.

## LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

### *Proposed Conference of Sanitary Authorities.*

THE position of Liverpool as a great maritime highway is now accentuated by the fact that the Manchester Ship Canal can only be reached *viâ* the river Mersey. So far as relates to port sanitary matters this has been already alluded to by your Manchester correspondent in last week's issue of THE LANCET. Acting in conformity with the suggestion of the Local Government Board the Liverpool Port Sanitary Committee have instructed the town clerk to make arrangements with the authorities riparian to the Manchester Ship Canal, or abutting upon the waters constituting the port of Manchester, for a meeting in Liverpool. It has also been arranged that the Lord Mayor, the chairman, and the deputy chairman of the Port Sanitary Committee, with Messrs. Paull and Walker, Dr. Clarke, the town clerk, and the medical officer, Dr. Hope, shall be appointed to represent the Liverpool Port Sanitary Authority at the proposed conference. It is expected that an early date will be fixed.

### *Small-pox, Vaccination, and Isolation.*

An addition to the many illustrations already given as to the protective powers of vaccination, and also as to how small-pox is spread, was made at Wigan on the 16th inst. A woman residing at Longshoot Scholes was summoned for failing to notify a case of small-pox to the sanitary authority. It appeared that an outbreak recently took place in defendant's house. There were eight children in it, and the child that died from small-pox was the only one amongst the number that had not been vaccinated. Eleven other cases were traced to the outbreak in defendant's house. The bench imposed the full penalty of 40*s.* and costs.

Sept. 17th.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

### *A Public Health Difficulty at Port Glasgow.*

A CURIOUS position has been reached as the result of a dispute between landlord and tenant in regard to the responsibility for a nuisance in connexion with a dwelling-house in the burgh of Port Glasgow. The tenant, who is a medical man, communicated with the Local Government Board, from which instructions were sent to the local authority to proceed against the owner of the property under Section 255 of the Burgh Police Act. The representatives of the landlord then offered to comply with the section of the Act provided the certificate which the Act requires were produced. But it has been found that no medical man in the burgh possesses the public health qualification, which is needed in order to sign the certificate, and so the local authority cannot move further in the matter.

### *Glasgow: Fatal Accident Inquiries Act.*

This new law, under which fatal accidents are reviewed before a sheriff and jury, has now been put in force in a number of cases. Some differences of practice on the part of different sheriffs with regard to the action of the juries have already occurred. Thus, in one recent case, in which a railway shunter was killed whilst engaged in his occupation, the jury proposed to add to the statement of fact in the verdict an expression of opinion that the system of signalling was defective; but the sheriff altogether discouraged this and informed the jury that to do so would be to take upon themselves a responsibility to which they were not called. In other cases, however, the sheriff, whilst telling the jury they were only compelled to consider the immediate cause of death, has received and even encouraged expressions of opinion in reference to the question of personal responsibility for the accident.

### *Hospital Vacancies.*

Professor Coats, M.D. Glasg., has resigned his position as pathologist to the Royal Hospital for Sick Children,

Glasgow. He has held this office since the establishment of the hospital in 1882. There are also vacancies on the medical side of the out-patient department, and a qualified clinical assistant is to be appointed to the dispensary. The Western Infirmary is advertising for applications for a vacant position on the medical dispensary staff, and there is a surgical vacancy at the Central Dispensary.

*Infectious Diseases in Glasgow.*

The city is now practically free from small-pox, only a single case being at present in hospital. Scarlet fever and to a less extent enteric fever are, however, on the increase. The number of cases of the former known to exist on the 14th inst. was 555, whilst 184 patients suffering from enteric fever were noted in the medical officer's report.

*Aberdeen Royal Infirmary.*

The infirmary directors have now fixed on a site for the new convalescent hospital. It is to be built on about four acres of ground feued from Mr. William Pyper on his property of Hillhead Pitfodels. It will accommodate about twenty-five patients and is within twenty miles' easy walk of Cults Station, commanding a far-reaching view of the Deeside valley and mountains. The old Convalescent Hospital and grounds at Lochhead have been disposed of for a satisfactory price to the Royal Asylum. The Infirmary Board have also resolved to appoint an assistant anæsthetist to act with Dr. Edmond, the present chloroformist. The funds of the hospital fell short of the expenditure last year by some £500, and the chairman announced that he had addressed appeals to various parishes throughout the county whose contributions fell far short of the amount spent on patients sent from them, and that he had received hopeful replies.

*Aberdeen University: The Inaugural Celebrations.*

As I informed you last week the University Court and Senatus resolved to postpone till December the celebrations held to inaugurate the new buildings at Marischal College as a mark of respect to the memory of the late Mr. Charles Mitchell, LL.D., in whose honour they were largely to be held. Since then his son, Mr. C. W. Mitchell, has informed them that it would be more in accordance with his mother's and his own wish that the celebrations should be held as previously arranged in October. A meeting of the Court, therefore, is to be held this week to consider which course they shall pursue.

*The Health of Aberdeen.*

The zymotic diseases notified for the week are: scarlet fever, 14; typhoid fever, 8; whooping-cough, 31; erysipelas, 4; puerperal fever, 1; choleraic diarrhœa, 1; total, 59—being 22 cases fewer than in the preceding week.

Sept. 17th.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Irish Tourist Association.*

THE Presidents of the Royal College of Physicians and the Royal College of Surgeons of Ireland attended among the deputation introduced to his Excellency the Lord Lieutenant by the Lord Mayor of Dublin on the 7th inst. Many suggestions for the entertainment and accommodation of visitors to Ireland were made by the speakers on the occasion, while a novel proposal emanated from Sir Thornley Stoker, who called attention to the fact that Ireland is traversed almost from side to side by two large canals, and to the advisability of utilising these fine streams for the transit of house-boats.

*The Will of the late Sir George Porter.*

Probate of the will of the late Sir George Porter, LL.D., F.R.C.S. Irel., &c., who died on June 16th last, has been granted to his widow, Dame Julia Porter, and to his son, Sir William Porter, Bart., power being reserved to grant probate also to Mr. Charles Leeper. The personal estate was valued at £57,366. The testator bequeathed to Lady Porter £250 and the use of his house in Merrion-square, her yearly income to be made up from the trust-fund of her marriage settlement to £1050 for her life. There are, with other bequests, legacies of £500 each to the testator's friends Sir George Owens, M.D. Glasg., and Mr. B. Whitney; and a legacy of £100 to his nephew, Mr. Charles Leeper, in consideration of the executorship.

*Fines for the Sale of Unsound Meat in Dublin.*

The Dublin corporation has recently brought two summonses against the Jewish Meat and Provision Company of this city for the sale of unsafe meat. For the defence it was pleaded that sudden decomposition may have taken place in the meat after it was sold in consequence of lightning, which prevailed on that evening, and also owing to the unusually hot and moist condition of the atmosphere. It also transpired that the meat was killed by the above company with the greatest care—with greater care, in fact, than was used by butchers of the Christian persuasions. The practice was that the Rabbi or other ecclesiastical persons of importance examined every animal for soundness before it was killed, and ascertained that the process of killing, bleeding, &c. was done in the best possible way. The animal, after it was killed, was opened and the portion of the stomach known as the caul drawn out so that its contents could be examined. Particular portions of the animal were marked for those of the Jewish persuasion by means of a peculiar pencil which writes on fat. Subsequent evidence, including that of Mr. Purcell, L.R.C.S. Irel., proved, however, that the meat sold was in an unsafe condition. A fine of £5 in each case was imposed.

*The Recent Report on the Belfast Workhouse.*

At the meeting of the Belfast board of guardians held on Sept. 10th a report was presented by a sub-committee recommending that a special room should be allocated for the examination of patients on admission and that an observation ward should be set apart for those supposed to be suffering from lunacy until their condition should be finally determined. The sub-committee approved of a bath and lavatory being provided for the separation wards, and they recommend that a male nurse be appointed as soon as possible for the male lock ward. As to the resident medical staff, the sub-committee are of opinion that these officers should verify and sign the medical weekly return, the book being counter-signed by the visiting medical officers.

*Hospital Saturday, Belfast.*

The collection for the Belfast Royal Hospital was made on Sept. 14th, but, notwithstanding beautiful weather and every effort on the part of those helping, not more than £300 have been realised. In 1885, the first year of the collection, £500 were subscribed, and each year it grew less, until it reached its lowest water mark in 1892. Last year £400 were contributed. Many people think that until the hospital is put on the city rates it will not be in a permanently sound financial condition.

*Queen's College, Belfast.*

Rev. W. Nicholas, D.D., and Rev. Douglas Walmsley, B.A., have been appointed Deans of Residence of the College to fill up death vacancies.

*Transfer of Lunatics from Asylum to Workhouse.*

On Sept. 14th an inquest was held in the Belfast Union Hospital in reference to the death of a young woman who died in the lunatic department on the 12th inst. It would seem that the deceased was admitted to the Belfast Asylum in 1889, having been transferred from the Ballymena Workhouse. She was suffering from dementia, but was quiet in manner and was delicate in health. Owing to the overcrowded state of the asylum she was later transferred to the lunatic department of the Belfast Workhouse, this being done under an old arrangement, as now only patients belonging to the Belfast Union are sent to the workhouse from the asylum. When admitted to the lunatic department of the Belfast Union Hospital she was pregnant and was suffering from disease of the lungs. After being confined she was put in a bed in the lunatic ward, where she had been continuously since last March and where she died from phthisis. In his remarks to the jury the city coroner said that every lunatic should be removed from the workhouses of Ireland and placed in properly equipped asylums. In his opinion, the transfer of a delicate, pregnant woman like the deceased from a properly equipped asylum to a workhouse, which was never intended for the reception of the insane, would undoubtedly have a prejudicial effect upon her health. The jury returned the following verdict: "That the deceased died from consumption; that a Royal Commission to inquire, amongst other things, into the reception and treatment of lunatics in workhouses is imperatively needed; that, in the opinion of the jury, workhouses were unfitted and never intended for the treatment of the insane; and that the coroner be requested to forward a copy of the verdict and the depositions to the Chief Secretary of Ireland."

*The Belfast Hospital for Sick Children.*

The Belfast Hospital for Sick Children, which has been

closed for several months, will be reopened on Sept. 23rd. In the interval the sanitary arrangements have been entirely altered, a new wing, properly isolated, having been built, in which on each floor there are bathrooms and closets. Formerly there was a laundry on the ground floor; it has been decided to remove it to the convalescent home in the country, and the space thus gained has been utilised in an extension of the extern rooms for the greatly increased out-patient work. The surgical theatre has been enlarged and improved in every respect in accordance with the demands of modern science. The hospital is now one of the most perfect in Belfast, and these new changes and improvements will bring it into line with the most modern institutions of the kind in the United Kingdom.

*The Battle of the Clubs at Cork.*

Mr. O'Neill, secretary to the Amalgamated Clubs, wrote a long letter to the local papers, in which he claimed that the late conference had resulted favourably for the clubs. For the purpose of proving his contention he published what purported to be the minutes of the proceedings. He tabulated the rules of the medical men, and opposite about half of them wrote the word "expunged." Now, taking the very first rule, I find it proposes that members should pay according to their income. With regard to that the club delegates suggested that it would be very difficult to devise a plan for ascertaining the incomes of members of any one club; but if the sliding scale were not insisted on each club would be willing to pay any sum the medical men were likely to ask. The medical delegates considered the proposition worth bringing under the notice of the profession, and Mr. O'Neill, in his minutes of the proceedings marks "expunged" opposite Rule 1. The supposed disappearance of Rule 1 forms part of what is represented as a win for the clubs. In this morning's papers the medical delegates publish the subjoined reply, which tends to demolish the pretensions of the clubs.

Cork, Sept. 16th, 1895.

SIR,—In his letter relative to the recent conference on the subject of medical clubs, Mr. O'Neill states that several of the rules adopted by the doctors were "expunged," but the Mayor can certify that we stated we were there simply to discuss the rules, and that they could be altered only by the general body of the profession. As a matter of fact, not a single rule has been expunged. We contended on behalf of the profession mainly for two points: (1) that the present ridiculously low rate of remuneration should be increased to a just and reasonable amount; and (2) that persons in receipt of over £200 a year should not be allowed to avail themselves of medical services at club rates. The delegates would be willing to agree to our first proposal, and with regard to the second they would be prepared to prevent the admission of new members whose incomes would exceed £200 a year. That looked very like conceding nearly all we asked, though interested parties endeavoured to make the public believe that our just demands were monstrous and unreasonable. No doubt the club delegates were anxious to retain existing members, no matter what their incomes may be, but we do not believe the profession at large would acquiesce in that arrangement, as we have since the conference ascertained that a very large number of club members, whose names are before us, are in receipt of incomes varying from £400 to £800, and even £800 a year.—We are your obedient servants,

NATHANIEL J. HOBART, M.D., | EDWARD MAGNER, M.D.,
EDWARD R. TOWNSEND, M.D., | JOSEPH GUISANI, M.D.,
HENRY CORBY, M.D., | PHILLIP LEE, L.K.Q.C.P.I.,
Medical delegates at the late conference.

P.S.—The absence of our honorary secretary prevented the publication of this letter at an earlier date.

I have every reason to believe the Cork medical men will soon enter on a still more active campaign against the clubs. At an early date they will have under consideration the propriety of forming new clubs to be governed entirely by the medical men themselves. They could then exclude those able to pay ordinary fees; and they would be in a better position to adopt a sliding scale of payment for members. Many members of the Cork clubs are dissatisfied with the present state of affairs, but they do not care to revolt openly and thereby lose the benefits accruing to them in their clubs. Let the Cork medical men offer them similar advantages in a new club and the desertions would be so great that the old clubs would be forced to surrender at discretion.

Sept. 17th.

## ROME.

(FROM OUR OWN CORRESPONDENT.)

*The Twenty-fifth Anniversary of "Rome the Capital."*

ON Friday, the 20th inst., recurs the twenty-fifth anniversary of the fall of the temporal power, the triumphal entry of the troops of United Italy, and the transference of the capital of the kingdom from Florence to Rome. On the political aspects of the event I have, of course, nothing to say; but in so far as the healing art is concerned, first as to education, then as to practice, and finally as to the results manifested in the public health, the occasion is interesting enough to suggest a few comments. There is no doubt that the conversion of Rome from the capital of the Church into the capital of the "fifth great European Power" has given an impetus to the modern life in the city long immersed in mediæval tradition. The hospitals have become enlarged; their appointments, though still far short of an ideal standard, have been improved; their *personnel* has been increased, and the beginnings at least of a model institution of the kind for the rest of Italy have been made in the Policlinico. Concurrently with this the teaching in the University—theoretical, practical, and clinical—has taken a signal start for the better, thanks to the addition to its staff of such men as the late Professor Moleschott, whose agnosticism and thorough-going adhesion to the evolutionary principle had made him a "persona" far from "grata" to the old *régime*. Further, the necessity of making the new capital as healthy as the influx of population and the residence of royalty and Government demanded, has inspired a more exemplary "nettezza pubblica" (external tidiness) than prevailed previously, while it has led to the partial reclamation of the outlying Campagna, and the consequent diminution of the "intoxication tellurique" (to use Dr. Léon Colin's happy phrase), which is the proximal cause of malaria. All these are gratifying results of the revolution now being enthusiastically commemorated by "Young Italy"; but there is a reverse side to the picture. Only a quarter of a century divides the old from the new Rome, and there has hardly been time for the modern city to rise to an adequate appreciation and fulfilment of the duties it has assumed. The building operations have been conducted with more haste than prudence, and the interests of the speculator and jerry builder have overborne those of the sanitarian. The water-supply is neither as abundant nor so pure as it was before 1870, with the result that typhoid fever, till then unknown, is now all too familiar to the practising physician. The rapid increase of population has brought with it the "great sins of great cities," and the misery and deterioration of the lower orders is, as usual, manifested most painfully in the very young. Last Christmas his Excellency Dr. Baccelli, on an official visit to the new quarter at San Lorenzo, was shocked to witness the squalor, the indications of premature vice and crime, together with all the saddening prospects the spectacle implies, that met him at every turn. In conjunction with another statesman the ex-minister Finali has set himself at once to devise and carry out measures for the rescue and rehabilitation of the tender youth of the city, and his efforts have been seconded with a zeal and liberality that are of the best augury for his truly philanthropic and patriotic scheme. "We have made Italy, now we have to make Italians" is hardly less true to-day than when Dr. Azeglio uttered the memorable saying a generation ago, insomuch that the commemoration of the crowning act of the nation's unity, now in full progress, could not take a better form than a reinforcement of Dr. Baccelli's humanitarian endeavour and its extended application to all the cities and communes of the kingdom—to all the places, and their name is legion, in which Italy is already paying the penalty of increased responsibilities and hardness of living—a penalty seriously impairing her present and darkening her outlook for the future.

*The Croce Rossa Italiana and the Autumn Manœuvres.*

By common consent the intervention of the Italian Red Cross at the recent manœuvres was one of the most gratifying features of those exceptionally brilliant evolutions. Invited by the War Minister, the Central Association sent, at its own expense, a fully equipped hospital of 100 beds, which, under the direction of Captain Giacomo Crespi, M.D., the physician-in-chief, took up successive positions at Cittaducale, Madonna della Strada, and Aquila. During the sixteen days of its active service the hospital admitted 130 soldiers, the majority of whom suffered from medical rather than from surgical lesions. Every department of the hospital was brought into play, so that, besides the medico-chirurgical service proper, the pharmacy, the *contabilità* (or whole book-keeping function of the Red Cross), the stores of linen and other necessaries, the kitchen, and every detail apt to be put *en évidence* in a campaign, were all in full exercise from day

to day. At Aquila His Majesty King Humbert paid the hospital a special visit. For more than an hour he made a minute inspection of every branch of the service, and on taking leave expressed his high satisfaction with the efficiency he had witnessed. His Excellency Signor Mocenni, the Minister of War, as well as the Director-General of the manœuvres, the foreign military representatives, and the general officers present at Aquila, also visited the hospital and put on record their sense of the completeness, promptitude, and effect manifested in the service as a whole. In fact, Count Della Somaglia, the president of the Italian Red Cross, received from the War Minister a telegram, which I am authorised to give textually: "The officers and *personnel* of the Red Cross were of signal service during the grand manœuvres, and to you I express my fullest sense of satisfaction. The scientific knowledge and practical skill of the effective *personnel* were alike admirable.—The War Minister, MOCENNI."

Sept. 17th.

## CANADA.

(FROM OUR OWN CORRESPONDENT.)

### *The Dominion Medical Association.*

WHAT the British Medical Association is to Great Britain the Dominion Medical Association is to the profession of this colony; and whilst its gatherings are not as large, perhaps, as those of the Ontario Association, which has met for some years past annually in Toronto, yet the influence of the former association must be of greater benefit to the profession at large. The interchange of ideas which happens at the annual gathering of representative men from the Atlantic to the Pacific will in the near future result in a levelling of those barriers erected by prejudicial legislation which prevent the interprovincial exchange of diplomas and act as a deterrent to the settlement of graduates of one province in any of the other geographical divisions of our Dominion—a fact which is to be greatly deplored when we have a population equal in number only to that of London and scattered over such a vast extent of country. It is, however, in regard to the effect of these annual meetings in various portions of Canada upon the raising of the professional standard and presenting to the medical world the crystals of our professional thought that I would refer, and to this end I take pleasure in presenting a brief account of the recent session held in the city of Kingston. This, the twenty-eighth annual convention, was presided over by Dr. W. Bayard, St. John's, New Brunswick, who delivered the Presidential address at the afternoon session, held on Aug. 28th. It comprised a review of the advancement of medicine in this country, and a demand that better recognition should be given by the public and the State to the members of our profession, that the salaries of those in State institutions should be commensurate with the duties, and that local boards of health should possess medical members. Speaking of the effects of alcohol, he affirmed that prohibition was not a success, and favoured the establishment by the Government of inebriate asylums, the maintenance being obtained from the revenue at present derived from the licence. Our much-lauded educational system was referred to, and the caution given that the same should not be pressed to the sacrifice of health, which, I fear, alas, is too often the tendency at present. In moving the adoption of the address Sir James Grant (Ottawa) claimed that the general standard of education in this country was too high for ordinary avocations, and he thought that common-sense was educated out of people. The Address in Surgery was delivered by Dr. J. H. Cameron, Professor of Clinical Surgery, Toronto, whilst that in Medicine was given by Dr. Farrell (Halifax, N.S.). Dr. Buller's (Montreal, P.Q.) paper on Removal of Membrana Tympani and Ossicles (illustrated) was a most interesting one. Dr. B. C. McKenzie's paper on Physical Training and Development as a Therapeutic Measure was discussed at some length by Drs. L. A. and R. H. Sayre (New York) and Sir W. Hingston and Dr. Roddick (Montreal), as also was the paper of Dr. A. Lapthorn Smith (Montreal), on What is the Best Treatment for Retroversion of the Uterus. Dr. A. J. McCosh (New York) discussed at some length the Operative Treatment of Injuries of the Head. Perhaps one of the most instructive features of the meeting was the skin clinic taken part in by Dr. L. Duncan Bulkeley and Dr. Robinson (New York), Dr. Graham (Toronto), and Dr. Shepard (Montreal). Of the business dealt with by the Association the most important was that relating to interprovincial registration. The report of the committee, as presented by Dr. Roddick (Montreal), was as follows:—

"The committee appointed at the last meeting of the association to look into the question of inter-provincial registration, composed of the following—Sir James Grant, Dr. Cameron, and Dr. Pyne (from Ontario); Sir William Hingston, Dr. Roddick, Dr. Marciel, Dr. Beausoliel, Dr. Cholette, and Dr. Parke (from Quebec); Dr. Christie and Dr. White (from New Brunswick); Dr. Farrell and Dr. Muir (from Nova Scotia); and Dr. Warburton (from Prince Edward Island)—would beg leave to express regret that by the system which at present obtains a graduate in medicine entitled to practise in one province is not free to exercise his functions in all the provinces of this large and sparsely settled Dominion; that this condition of things prevents the names of medical practitioners in this Dominion being placed on the British register, becoming thereby British practitioners, a boon which the Council of the Medical Association of Great Britain (*sic*) has more than once signified its willingness to grant; with the end in view that it is, therefore, considered most desirable that a uniform standard of matriculation, a uniform standard of education, and a uniform standard of examination for the whole Dominion be established in order to effect this purpose."

Dr. James Thorburn (Toronto) was elected president for 1896. The Association was received by the citizens of Kingston in a most hospitable manner, the trip to the far-famed Thousand Islands being, perhaps, the most enjoyable feature of the entertainments.

### *New Official Medical Organ.*

For some little time past the official journal of the Medical Councils of Ontario, British Columbia, and North-west Territory has been the *Ontario Medical Journal;* in July last it became absorbed by the *Dominion Medical Monthly*, the new journal being published under the two names jointly. There is little room for congratulation on the appearance, journalistic and otherwise, of this outcome of amalgamation.

### *Medical Council of Ontario.*

The late meeting of the Council calls for little comment, except that the proceedings have been wordy, and therefore prolonged beyond their usual length. The Council, which for the past three years has not exacted the annual fee of two dollars from practitioners, has found itself compelled to enforce the payment this year and to call upon the members for the arrears of those years. This will, I fear, meet with opposition from many of the members. I cannot help feeling that the Council should impose a fee of sufficient amount upon first registration, and put an end to this vexatious system of requiring two dollars yearly.

Sept. 10th.

## AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

### *Medical Practice in Victoria.*

AT the last meeting of the Victorian Branch of the British Medical Association Dr. W. L. Mullen read a paper in which he reviewed the position of the profession in the Colony of Victoria. Up to about ten years ago the colony was a most excellent field for medical practice. A practitioner had simply to start in a suburban or country district and keep himself respectable, and successful practice came to him. It was quite a usual thing to make an income of £1500 per annum after a couple of years' practice. Now all is altered, and from a twofold cause—the general depression of trade and the fact that the rate of increase of medical practitioners is about ten times greater than the rate of increase of the population. During the last ten years there has been a steady diminution in the remuneration of medical work of all kinds. The rate allowed by lodges has been reduced, the salaries of resident medical officers in public institutions has been lowered almost to nothing, fees have fallen, and private practice has been diminished by the competition of the sixpenny dispensaries and the abuse of hospitals. These sixpenny dispensaries are comparatively a new institution in the colony, are largely on the increase, and are becoming a serious evil. They are the private property of the practitioner, who employs a paid agent to tout for patients and collect the fees. The members join when they like and leave when they like; they regard the medical man as a mere tradesman and as their paid servant, out of whom they must get as much as possible for their money. The medical man, on the other hand, gives as little as possible, and the practice is apt to be carried on in a perfunctory and even jeopardous manner. The lodges also are introducing a system of combining in a district and employing a

practitioner who is to be allowed lodge patients and nothing else at a fixed income. Dr. Mullen expresses the opinion that the downward tendency in the profession will continue, and hazards the guess that while individual excellence will enable a few men to maintain a high standard of remuneration, the average practitioner, after paying the expenses of carrying on his profession, cannot expect to have more than a taxable income of from £300 to £600 per annum for his private and family maintenance, and that the less amount will be the more general. It is desirable that these facts about medical practice in the colony should be well known in Great Britain, that practitioners there may know what to expect if they come here to further overcrowd the profession in a country where the ratio of medical men to population is as high, and the struggle for existence as keen, as anywhere in the world.

*Irregular Medical Practice in New South Wales.*

A somewhat remarkable communication was recently laid on the table of the Legislative Council of New South Wales, relating in much detail the methods adopted by certain quack establishments in Sidney. It appears that the business was really conducted by a layman, a shrewd American, who lived in luxury on the proceeds. With him was associated a medical man, who practically simply lent his name and saw a few patients. The greater part of the business was done by correspondence, the extent of which was such as to keep eleven clerks continuously employed in copying stereotyped letters, and the communication is evidently made by someone who has been a clerk in the establishment. The business was very extensively advertised and a book was also circulated. The advertisements and the book induced sufferers, real and imaginary, to write for further information and for cure for £1 as advertised, but in so doing they generally made confidential statements which they would not like made public, and which prevented exposure when they subsequently found they had been duped. They were then told by another stereotyped letter that their case was very serious and required prolonged treatment at exorbitant rates, and subsequently they received further stereotyped letters with directions for treatment and diet. The letters are all given in the communication, the whole of which is further evidence of the extreme gullibility of the public.

*Snakebite.*

The difference of opinion which exists in the colonies as to the efficacy of the various methods advocated for the treatment of snakebite probably arises from the want of scientific accuracy in observing and recording cases. A paper on this subject in the July number of the *Australasian Medical Gazette*, by Dr. W. C. C. Macdonald, shows very clearly how easily mistakes may be made. He points out that in very few of the recorded cases is the snake that is supposed to have bitten the patient scientifically identified, and yet harmless and venomous snakes are constantly confounded by the general public. Another important point absent from a large number of reports of cases is a description of the appearance of the bitten part, although Dr. Macdonald states that it has been abundantly proved in his own experience that a poisonous snake may inflict a bite from which no dangerous results will ensue. In order that it may inflict a fatal bite the snake must deliberately seize the part with both jaws and hold on for a definite period, and accordingly will leave marks of the teeth of the lower jaw. The part also presents a chewed appearance and is distinctly œdematous and often ecchymosed, while there is a continuous weeping from the fang punctures. Dr. Macdonald records several illustrative cases in support of his statements, and says that during the last eleven years he has seen over sixty cases of bites from various kinds of snakes, and of these only six died. Eight exhibited signs of poisoning but recovered; the rest were either incomplete bites or bites from non-venomous snakes. Three cases are recorded in detail when the snakes were fully identified, the marks of a complete bite characteristic, and the patients died in spite of repeated injections of strychnine. He concludes that strychnine is useless when a lethal dose of snake poison has been injected, and he has noticed nothing in its effects, such as strengthening of the pulse, that could not be produced by other and less dangerous stimulants. There is a distinct tolerance of strychnine by a snake-poisoned patient, and there is danger if a person has been bitten by a non-venomous snake, and is indiscriminately and largely dosed with strychnine, that dangerous and even fatal results might follow from the drug. Dr. Macdonald is of opinion that if ligature was promptly applied, other parts scarified and vigorously sucked, no symptoms dangerous to life will follow the bite of Australian snakes.

*Deaths in the Profession.*

By the death of Paul Howard MacGillivray, M.A., LL.D., M.R.C.S., F.L.S., the profession in Victoria has lost one of its most scientific members. He was the son of Dr. MacGillivray, at one time Professor of Natural History in Marischal College, Aberdeen, and afterwards Curator of the Museum of the Royal College of Surgeons, Edinburgh. He thus early acquired an interest in science, which he retained to the last, his researches on Polyzoa being well known. Force of circumstance drove him into the medical profession to earn his livelihood, and he has been associated with Bendigo as its leading surgeon for nearly forty years. He was a very modest, retiring man, most scrupulously honourable in all his actions, and enjoyed the complete confidence of his professional brethren. Besides his contributions to natural science he wrote many papers on medical subjects, and was among the first in Australia to study the subject of hydatid disease. In 1874 Mr. MacGillivray was elected President of the Medical Society of Victoria, and four years ago the University of Aberdeen conferred upon him the honorary degree of LL.D., a distinction his father had received fifty years before.

The death of Louis Ralston Huxtable, M.B. Edin., of College-street, Sydney, at the early age of thirty-nine, carries a sad shock to his many friends and admirers. Dr. Huxtable had just reached a high position in his profession. He was honorary physician to the Sydney Hospital, to the Sick Children's Hospital, and to the Walker Convalescent Home. For the last three years he had been honorary secretary to the New South Wales Branch of the British Medical Association, and was mainly instrumental in bringing about the arrangements for making the *Australasian Medical Gazette* the property and organ of the Branch. Dr. Huxtable was attacked by diphtheria, at first apparently not very severely. Antitoxin was injected, and he appeared to improve, but pneumonia set in and proved rapidly fatal. He will be much missed in Sydney. He was a man of charming manner and address, well read, both medically and generally, and he took a most enthusiastic interest in promoting the welfare of the profession.

# Obituary.

## JOHN MAKINSON FOX, M.R.C.S., L.S.A.

MUCH regret is felt at the death of Mr. John Makinson Fox, the late medical officer of health for Mid-Cheshire. He had been out of health for some time, and died a few days ago from pneumonia. He was in his sixty-fourth year, and had held his last appointment for nearly eighteen years. Previously to this he was medical officer for the Cockermouth combined sanitary district. He did much to improve the sanitary condition of Mid-Cheshire, where, indeed, much improvement was needed. New sewage schemes have been introduced, improved water-supplies obtained, and better provision made for the burial of the dead. He was a man of kindly, generous disposition, somewhat impulsive in speech and energetic in action, and earnest in his endeavours to promote public health. Having the gift of picturesque language, he often used it freely in condemnation of the sanitary misdeeds of neighbouring authorities, and especially in the case of Manchester and the Ship Canal. But notwithstanding all this and the slight dash of eccentricity which marked his numerous letters to the papers, he was much liked personally, and his influence was most beneficial to the district under his supervision, where his genial presence will be greatly missed. It may be added that he was a great lover and a good judge of pictures, and a musician of considerable attainments.

LITERARY INTELLIGENCE. — Messrs. Sampson Low, Marston, and Company will shortly publish the first and second volumes of the "Twentieth Century Practice," being an international encyclopædia of modern medical science by the leading authorities of Europe and America. This work will be completed in twenty volumes, and will be edited by Thomas L. Stedman, M.D., of New York City.

# Medical News.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE. The following candidates have passed the examination for degrees in Medicine and Surgery at the College of Medicine, Newcastle-upon-Tyne, being the first examination for the degree of Bachelor in Medicine:—

1. *Elementary Anatomy and Physiology, Chemistry with Chemical Physics, and Botany with Medical Botany.*—Andrew Adams Bolton and James William Hugh Boyd, College of Medicine, Newcastle-upon-Tyne; John Scott, Middlesex Hospital; and Reginald Percy Richardson, Westminster Hospital.
2. *Chemistry with Chemical Physics.*—Edwin Gilbert Emerson Arnold, M.R.C.S., L.R.C.P., St. Thomas's Hospital; Ernest Castleigh Bailey, King's College Hospital; and Thomas Streatfeild, M.R.C.S., L.R.C.P., University College Hospital, London.
3. *Chemistry with Chemical Physics, and Botany with Medical Botany.*—John Henry Martin, College of Medicine, Newcastle-upon-Tyne.

The following candidates have satisfied the examiners under the new regulations:—

1. *Elementary Anatomy and Biology, Chemistry, and Physics.*—*Honours, First Class:* James Milligan, College of Medicine, Newcastle-upon-Tyne. *Honours, Second Class:* Edward Golton, James Muirhead, Norman Christian Bailes, Norcliffe Roberts, and Harold Ben Fawcus, College of Medicine, Newcastle-upon-Tyne; William Sisam, Mason College, Birmingham; and John Tyrer Johnson, College of Medicine, Newcastle-upon-Tyne. *Pass List:* George Oswald Morrell Dickenson, Richard Henderson Garbutt, William John Harrison, and Charles Thomas Holmes, College of Medicine, Newcastle upon-Tyne; and William Johnston Symes, Sheffield School of Medicine.
2. *Elementary Anatomy and Biology.*—Laurence James Blandford and Clifford Harold Brookes, College of Medicine, Newcastle-upon-Tyne; Edleton Harvey Cooke, St. Thomas's Hospital; Joseph James French, Arthur Hines, Eliot Swainston, and Thomas Blandford Watson, College of Medicine, Newcastle-upon-Tyne.
3. *Chemistry and Physics.*—John Rutherford Halliday, London Hospital; Ernest Inman, College of Medicine, Newcastle-upon-Tyne; Ralph Albert Rogers Lankester, University College, London; John Macfadyen, College of Medicine, Newcastle-upon-Tyne; Robert Fletcher Moorshead, Bristol Medical School; Archibald Cameron Ney, Guy Brougham Picton, John Ernest Sidgwick, and David Henderson Weir, College of Medicine, Newcastle-upon-Tyne.
4. *Physics.*—Allan Mackie Garnock Walker, College of Medicine, Newcastle-upon-Tyne.
5. *Elementary Anatomy, Chemistry, and Physics.*—Ralph Harry Vincent, St. Bartholomew's Hospital.

THE Chair of Pathology in the Faculty of the Jefferson Medical College in Philadelphia is vacant.

THE salary of Mr. Stanley Kirton as medical officer for Leigh has recently been raised by the guardians of the Rochford Union from £15 to £25 a year. He has also received the Local Government Board's award for successful vaccination.

THE NANSEN EXPEDITION.—A feeling of hopeful expectancy has been aroused, especially among those interested in Arctic exploration, by the intelligence that Dr. Nansen's vessel, the *Fram*, may perhaps be making her way back to civilisation. The news comes from a Danish trading station in Greenland, where it has been reported that a three-masted ship corresponding to her description was seen by Eskimos last July firmly embedded in drift ice and somewhat to the southward of 66° N. latitude. Dr. Nansen's brother has thereupon published a letter stating that the explorer, when setting out in July, 1893, was of opinion that he could not return in less than three years. As this limit approaches, the public anxiety with regard to the fate of the expedition will not be confined to Norway, but will be general throughout Europe and America.

BEQUESTS TO HOSPITALS.—The late Mr. Thomas Chatfield Clarke, President of the Surveyors' Institute, has bequeathed £200 to the University College Hospital, London, and £100 to the Royal Isle of Wight Infirmary, Ryde, Isle of Wight.—The late Mr. John Alexander, of the firm of Messrs. Wm. Baird and Co., has bequeathed £30,000 to Coatbridge for the purpose of erecting a hospital there.—Mr. D. Sheriff Jackson, formerly of Bowden, has bequeathed £5000 to the Hospital for Incurables, Mauldeth Hall, Manchester.—Mr. Joseph Huntley, late of Kendrick-road, Reading, has bequeathed £500 to the Hospital, Reading, and £200 each to the Reading Dispensary, the London Temperance Hospital, and the North-Eastern Hospital for Sick Children, London.—The late Sir Joseph D. Weston of Clifton-road, Bristol, has bequeathed £500 each to the Bristol Royal Infirmary and the Bristol General Hospital, £250 to the Children's Hospital, St. Michael's-hill, Bristol, and £50 to the Bristol Eye Hospital.

THE PECULIAR PEOPLE.—Eccentric beliefs and observances have a remarkable faculty of survival even when they are confined to isolated individuals. If they happen to be such that their votaries may now and then take concerted action and make public display of their fatuity the unreasoning sympathies of sensation-seekers are easily enlisted in favour of a movement supported by the seeming force of numbers and enthusiasm. The strange sect which calls itself the Peculiar People realises these conditions to some extent, and has just been acquiring a transient local prominence in connexion with its annual harvest thanksgiving celebrations. These visionaries, who affect certain peculiarities of costume and demeanour, are found chiefly in the east of London and in the county of Essex, and are known to the general public mainly by their objection to medical treatment in sickness and by their implicit confidence in "faith-healing," aided by the "laying on of hands." The thanksgiving ceremonies have been well attended by excursionists, whose presence has enabled the proceedings to be carried out on an extensive scale by "Elder" Tansley's party at Chelmsford and "Bishop" Harrod's adherents at Southend. The observances and even the prejudices of a pietist community deserve respect when they are inoffensive and have the additional merit of sincerity, but it is impossible to avoid condemning a system which inflicts needless hardships on helpless sufferers and endangers a crowded neighbourhood by performing fanciful exercises over infectious cases which ought to be treated in an infectious hospital.

THE BRITISH ASSOCIATION.—A paper on the National Value of Organised Labour and Coöperation amongst Women was read on Tuesday, at Ipswich, before the Economic Section of the British Association, by Mrs. Bedford Fenwick. She quoted statistics to show the large and increasing extent to which women are now engaged in every department of labour, and pointed out that hitherto they had not attempted to any marked degree to combine and coöperate amongst themselves. She showed that the results which had been achieved by the Royal British Nurses' Association illustrated how valuable such combinations amongst women would be, not only for the individual assistance of the workers, but also for the general improvement of their methods of technical education and work. She considered the non-formation or the non-success of women's societies was largely due to the want of a central and controlling organisation, and showed how such a body could assist in the development of many industries amongst women which are at present greatly neglected. She ascribed much of the present agricultural depression to the diminished part now taken by women in dairy farming, poultry rearing, and other farm employments, and showed that for such produce alone this country last month paid more than two millions sterling to foreign nations. She pointed out the incalculable value of the home work performed by women, and quoted figures and calculations to show that an improved knowledge of dietetic, domestic, and hygienic matters amongst the women of the industrial classes would effect a national economy of at least £50,000,000 sterling per annum. Mrs. Bedford Fenwick described the constitution of a national council of women which is now being formed for the United Kingdom, with similar objects to those which national councils of women have been organised to undertake in the United States and in other countries. The council is to be divided into four main divisions—industrial, social, political, and professional—each division being constituted of a number of sections, and each section being composed of representatives of societies engaged in its special department of work.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information, suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

AIKEN, A., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer for the Maguiresbridge Dispensary District of the Lisnaskea Union.

BATTLE, E. WHARMBY, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Manchester Royal Infirmary.

CORY, G. C., M.R.C.S. Eng., has been appointed a Government Medical Officer and Vaccinator for the district of Bingara, New South Wales.

CRAN, R. D., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Manchester Royal Infirmary.

EMBLING, H.A., M.B., Ch.B. Melb., L.F.P.S. Glas., L.R.C.P. Edin., has been appointed Surgeon-Major on the Victorian Militia Medical Staff, Victoria, Australia.

FARMER, P.W., M.B. Melb., has been appointed Honorary Anæsthetist to the Melbourne Women's Hospital, Victoria, Australia.

HALL, J. P., M.B., Ch B.Vict., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Manchester Royal Infirmary.

HILLIER, R. J., L.R.C.P. Lond., M.R.C.S., has been appointed Senior House Surgeon to the West Ham Hospital, vice S. R. Blake, resigned.

HISLOP, PATRICK W., M.B., M.S. Edin., has been appointed a Public Vaccinator for the district of Geraldine, New Zealand.

HISLOP, WALTER, M.B. New Zeal., has been appointed a Public Vaccinator for the district of Lower Hutt, New Zealand.

HODGES, G., M.B., M.S. Edin., has been appointed a Public Vaccinator for the district of Manuherikia, New Zealand.

JAMIESON, SYDNEY, M.B., Ch.M. Edin., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Pathologist to the Hospital for Sick Children, Glebe, New South Wales.

KELLY, C. BRUCE, M.B. and M.C. Edin., has been appointed Senior House Surgeon to the Cumberland Infirmary, Carlisle.

KERING, J. D., M.D., M.Ch. Irel., has been appointed Medical Officer for the Treeton Sanitary District of the Rotherham Union.

LYNCH, A. F. A., M.B., Ch.B. Adel., has been appointed a Public Vaccinator for Moonta, South Australia.

MACDONNELL, L. G A., M.B., B.Ch. Dubl., has been appointed Surgeon to the Hospital at Herberton, Queensland.

MCLEOD, C. G., M.B., C.M., L.R.C.P., L.R.C.S. Edin., has been appointed Honorary Ophthalmic Surgeon, to the Hospital for Sick Children, Glebe, New South Wales.

MONK, H. G. H., M.R.C.S., has been appointed Medical Officer of Health for the Borough of Leicester, vice Priestley, resigned.

MOORE, F. C., M.Sc., M.B., Ch.B. Vict., has been appointed House Surgeon to the Manchester Royal Infirmary.

MUIR, I. M. M., M.B., Ch.M. Glasg., has been appointed Health Officer for Wynyard, Tasmania.

NUNES H.F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Clun Sanitary District of the Clun Union.

PINNIFER, WALTER A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Brighton Provident Dispensary, vice Humphreys, resigned.

SAMSON, HENRY A., M.B., Ch.B. Melb., has been appointed Medical Superintendent at the Ballarat Lunatic Asylum, Victoria, Australia.

SCANLAN, CHAS. E. F., M B., Ch.M. Glasg., has been appointed a Public Vaccinator for the District of Lower Hutt, New Zealand.

SCOTT, JOHN M., M.B. Melb., has been appointed a Health Officer for the Shire of Meredith, Victoria, Australia.

SHARMAN, MARK, M.B. Glasg., M.R.C.S. Eng., has been appointed Divisional Surgeon to the Herts County Constabulary.

SHARPLES, W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the Castleton District Council.

SHUTER, RICHARD E., M.B., Ch.B. Melb., has been appointed a Public Vaccinator at Port Augusta, South Australia.

SOUTHEY, A. J., M.R.C.S., has been appointed Medical Officer by the Slough Urban District Council.

STEEN, R. N., M.B Lond., has been appointed House Physician to St. Mary's Hospital, W.

STEPHENS, SAML., M.R C.S. Eng., has been appointed a Government Medical Officer and Vaccinator for the district of Walcha, New South Wales.

STEWART, JOHN, L.K.Q.C.P., L.R.C.S. Irel., has been appointed a Health Officer for the Walhalla Shire, Victoria, Australia.

SWAINSON, J. A., B.A. Cantab., L.R.C.P., L.R.C.S. Edin., L.F.P.S.G., L.M., has been appointed House Surgeon to the Hulme Dispensary, Manchester.

TAGGART, J. SCOTT, M.B., Ch.B. Vict., has been appointed House Physician to the Manchester Royal Infirmary.

TUXFORD, A., M.D. Edin., has been appointed Medical Officer of Health for the Boston Rural and Urban Districts, and Port, vice Clegg.

WARRINGTON, R. J., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the Manchester Royal Infirmary.

WESTBROOK, CHAS., M.D. St. And., L.R.C.P. Irel., has been appointed Deputy Coroner for the Retford District.

WHITTOW, JAS., M.D., L.M. Irel., L.R.C.S. Edin., has been appointed a Public Vaccinator for the district of Oamaru, Otago, New Zealand.

WOOLLRIGHT, A. PHILLIP, L.S.A. Lond., has been appointed Junior House Surgeon to the West Ham Hospital.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

BELGRAVE HOSPITAL FOR CHILDREN, 77, Gloucester-street, London, S.W.—House Surgeon. Board, fuel, and lights provided.

BRIGHTON THROAT AND EAR HOSPITAL, Queen's-road, Brighton.—Non-resident House Surgeon. Salary at the rate of £52 per annum.

CARNARVONSHIRE JOINT SANITARY COMMITTEE.—Medical Officer of Health for five years. Salary £684 per annum.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY, Wakefield.—Junior House Surgeon, unmarried. Honorarium, £40 per annum, with board, lodging, and washing.

COUNTY BOROUGH OF NEWPORT.—Medical Officer of Health for the Borough and the Port Sanitary District for five years. The salaries amount together to £350. Applications to the Town Clerk.

DURHAM COUNTY ASYLUM.—Junior Medical Officer. Salary £100 per annum, with board and lodging. Applications to the Superintendent, Winterton, Ferryhill.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £100 a year, with board and lodging. Applications to the Hon. Sec., 16, South Bailey, Durham.

ESSEX AND COLCHESTER HOSPITAL.—House Surgeon, single or widower without family. Salary, £80 per annum, with board and lodging in the hospital. Applications to the Secretary.

JAFFRAY SUBURBAN BRANCH OF THE GENERAL HOSPITAL, Gravelly Hill, near Birmingham.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

LONDON FEVER HOSPITAL, Liverpool-road, Islington, N.—Assistant Resident Medical Officer. Salary £120 per annum.

LONDON HOSPITAL, Whitechapel, E.—Medical Electrician.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Board, lodging, and washing provided.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Board, residence and laundry provided.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Resident Medical Officer (House Physician) for six months. Board, residence, and washing provided.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—Two extra Honorary Physicians for the Dispensary. A Pathologist. Honorarium, £20 per annum. An Assistant House Surgeon. Salary, £30, with board and washing. Assistant (non-resident) at Dispensary. Honorarium, £20.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road, Brighton.—House Surgeon. Salary, £80 per annum, with board, lodging, and washing.

# Births, Marriages and Deaths.

## BIRTHS.

ALSTON.—On Sept. 11th, at Ardmore, Isleworth, the residence of her father, the wife of W. Evelyn Alston, B.A., M.B., B.C. Cantab., of a daughter.

BATTISCOMBE.—On Sept. 15th, at Sandlings, St. Mary Cray, Kent, the wife of C. G. Battiscombe, M.B., C.M. Aberd., of a daughter.

CASE.—On Sept. 10th, at Denmark House, Caister-on-Sea, Norfolk, the wife of William Case, M.R.C.S.E., late of 34, Westbourne-road, London, N., of a son.

CATTELL.—On Sept. 17th, at Hereford-square, South Kensington, the wife of George Trew Cattell, L.R.C.P. Lond., M.R.C.S., of a daughter.

GOURLAY.—On Sept. 13th, at Kincraig, Southend-on-Sea, the wife of Frederick Gourlay, M.D. Edin., of a son.

LONG.—On Sept. 9th, at Greenodd, Ulverston, Lancashire, the wife of Frank T. Long, M.R.C.S., L.R.C.P., of a son.

MARSDEN.—On Sept. 16th, at Burscough-street, Ormskirk, the wife of H. H. Marsden, L.K.Q.C.P. Irel., M.R.C.S., of a daughter.

TATE.—On Aug. 24th, 1895, at Simla, the wife of Surgeon-Major Alan E. Tate, Army Medical Staff, of a son.

## MARRIAGES.

BROOKS—CHURCHILL.—On Sept. 18th, at Central Hall, Wimbledon, Jabez Pratt Brooks, M.R.C.S., L.S.A., of Queen-street, Wolverhampton, second son of R. W. T. Brooks, M.R.C.S., L.S.A., of Tollington-park, London, to Edith, second daughter of John Churchill, of Westfield, The Downs, Wimbledon.

CARDEW—MOORE.—On Sept. 11th, at St. Margaret's, Lee, H. Boyd Cardew, M.R.C.S., L.R.C.P. Lond., elder son of Major-General H. Cardew, late R.A., of Lee Park, Blackheath, to Agnes, third daughter of Mr. T. Moore, F.R.C.S., of Lee-terrace, Blackheath.

COVEY—STANTON.—On Sept 18th, at Holy Trinity Church, Millbrook, Southampton, by the Rev. Studholme Wilson, Rector of the parish, assisted by the Rev. T. W. H. Jacob, Vicar of Shirley, Edward Alan Rustat, eldest son of Charles Edward Covey, Esq., of the Lindens, Alresford, Hants, to Milborough Christiana, only child of T. Harrison Stanton, Esq., of Newlands, Millbrook, Southampton, and of Philips Heath, Stockbridge, Hants.

DONALDSON—HARRISON.—On Sept. 17th, at St. Michael and All Angles', North Kensington, Tom Campbell Donaldson, M.D., of Harlington, Middlesex, to Kathleen Emma, elder daughter of H. A. Harrison, Esq., J. P., of Doghurst, Hounslow.

ELLIS—MANDERS.—On Sept. 11th, at St. Saviour's, Tor, Torquay, Surgeon-Major Philip Mackay Ellis, fourth son of the late John Ellis, of Chudleigh, to Gertrude Septima, third daughter of the late Major Manders, formerly of the 6th Dragoon Guards (Carabineers).

HARRIS—HOWE.—On Sept. 11th, at St. John's Church, Monkstown, by the Rev. S. Howe (brother of the bride), assisted by the Rev. H. Hawkins, William James Harris, M.B., M.A., F.R.C.S., of Shaftesbury, Dorset, to Kathleen Emily, eldest daughter of the late Lieut.-Colonel Wm. Howe, of Monkstown, County Cork

LUCAS—PELLY.—On Sept. 17th, at St. Mildred's, Lee, Kent, Richard Clement Lucas, B.S., M.B., F.R.C.S., of 50, Wimpole-street, W., and of Oaklands, Mi4hurst, Sussex, to Kathleen, younger daughter of the late Surgeon-General Saville M. Pelly, C.B.

SIMPSON—SHARPE.—On Sept. 11th, at St. John's, Richmond, Surrey, Alexander Simpson, M.D. Aberd., of Whittingham, Preston, to Alice, youngest daughter of the late John Sharpe, of Barnes, Surrey.

SPENCER—MYLIUS.—On Sept. 12th, at the parish church, Hampstead, Matthew Henry Spencer, M.A., M.D. Cantab., of Maxilla-gardens, North Kensington, W., to Augusta Fanny Mylius, younger daughter of the late Rev. Frederick Henry Mylius, Rector of Eldon, Warwickshire.

## DEATHS.

FOX.—On Sept. 12th, of pneumonia, at his residence, The Grove, Lymm, Cheshire, John Makinson Fox, M.R.C.S., Medical Officer of Health for Mid Cheshire, aged sixty-three years.

WATERHOUSE.—On Sept. 18th, at Maltby Grange, near Rotherham, Yorks, Lucy Blanche, eldest daughter of John Hodgson Waterhouse, M.D.

*N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages and Deaths.*

# Notes, Short Comments, and Answers to Correspondents.

## EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MANAGER'S NOTICE.

### "THE LANCET" AND ACCIDENT INSURANCE.

A LITHOGRAPHED CIRCULAR LETTER, emanating from an office in the Strand district, is being sent to members of the medical profession, offering to supply them with THE LANCET, in conjunction with an accident insurance policy. The Proprietors of THE LANCET are in no way connected with the scheme (of which they cannot approve), and were not aware of its inception until their attention was called to it by a reader who had received the circular.

ANNOUNCEMENTS REGARDING MEDICAL MEN IN THE LAY PRESS.

OUR attention has been called by more than one correspondent to an announcement in the daily press of the return to London of a consulting physician (his full address being given) after the enjoyment of a holiday. It is also pointed out that in the same issue of a newspaper in which is the announcement in question the following notice appears: "All society and fashionable Paragraphs inserted in ———, except those relating to official incidents, will be charged at a minimum rate of one guinea for two lines; each succeeding line 10*s.* 6*d.* additional." We are not so uncharitable as to draw the same inference as does one correspondent, and prefer to look on the announcement as the cruel work of a perfervid and injudicious friend. But such paragraphs should be disclaimed; for if a medical man, be he a consultant or be he a general practitioner, permits his name thus to be published without protest, he serves, we venture to say, neither his own real interests nor those of the profession to which he belongs.

*L. W. P.* will find a list of the principal appointments held by medical men on page 20 of the Medical Directory. A letter to either of the Departments should bring him the information he requires.

## FEES FOR NOTIFICATION.

*To the Editors of* THE LANCET.

SIRS,—In a town in which the Notification of Diseases Act is in operation an out-door case of diphtheria is under the attendance of the house surgeon of the local infirmary. A consultation with one of the staff is requested and held. Subsequently, however, the case passes into the hands of another practitioner. All three medical men forward the usual certificate, but the local authorities have notified their intention to pay for one only. Can you refer to any legal decision bearing on such a case? I am, Sirs, yours truly,

Sept. 16th, 1895. Y. Z.

*** If our correspondent will refer to THE LANCET of May 4th, 1895, p. 1130, he will find the information he desires.—ED. L.

UNITED BROTHERS-IN-LAW AND MEDICAL ADVERTISEMENT.

ONE of the most curious customs of certain barbarous nations brought to light at the recent meeting of the British Association, and alluded to in another column, is known by the name of avoidance, and leads the mother-in-law and the son-in-law of a family to avoid each other. Very different is the case of the brothers-in-law in the paragraph below from the *Portsmouth Evening News*, which is so delicious in its mixture of family affection, church influence, and medical puffing that we give it in its entirety. We cannot say how far the dignity of Congregational churches will be advanced by such paragraphs, but they are certainly not in accordance with the dignity of the medical profession and call for Mr. Leadbeater's strong repudiation.

> "Dr. Thomas Leadbeater of Bethnal-green, who is about to take up his residence in East Southsea on account of the health of his family, is a brother-in-law of the Rev. J. Stockwell Watts, who has just accepted the pastorate of Victoria-road Congregational Church. The fact of their settling in Southsea at the same time is but a repetition of the previous coincidence of Dr. Leadbeater's commencing practice in Bethnal-green just at the time that Mr. Stockwell Watts entered upon his second pastorate in that district. Dr. Leadbeater, who had so successful a career at the London Hospital that he was pressed to become the house physician there, but declined, has since had considerable experience both as a private practitioner and at the North-West London Throat and Ear Hospital."

*Messrs. Baillière, Tindall, and Cox.*—With regard to the first part of their letter our correspondents are referred to THE LANCET of Aug. 24th, 1895, p. 510. The book has been received, and will be noticed in due time.

*Naze.*—Our correspondent's suggestion is, we think, unnecessary.

## GUARDIANS AND MEDICAL OFFICERS.

*To the Editors of* THE LANCET.

SIRS,—I shall be very glad of your opinion—or, if possible, an authoritative answer—to the following. About a fortnight ago I attended a man aged eighty-four years, a parish patient (I may say I am the district medical officer). The man was very ill, suffering from intestinal obstruction. He was living in one room by himself, with no one attending on him regularly. He had relatives (although he was a "parish" patient), who were fairly well-to-do, and who visited him during his illness, but stated that they could not attend to him. Under these circumstances I wrote an order to the overseers, stating that the man required a woman to go in and see after him. This order was not for a *nurse:* in the order I stated that a woman (named) had before "gone in and done for" him, and I recommended her re-engagement. The overseers (three) have lately been appointed, and for the first time. They refused to act on this order or recommendation; they waited five days, till the relieving officer visited the village, and then laid the matter before him. He told them that the only thing they could do was to order the man's removal to the union. As the patient was apparently dying this would have been impossible. Will you inform me whether the overseers are bound to act on my orders or not. One overseer tells me he will not act on my order in a like case should it occur again. I am perfectly willing to be held responsible by the guardians in a matter of this sort; but if overseers are to use their personal knowledge and feeling, it seems to me that it is useless for a medical officer to give any orders at all. The overseers based their reasons for refusal on the following grounds: (1) that they had no power to act in such a case, and (2) that the patient's relatives were able to pay for an attendant. I told the overseers that the second reason had nothing to do with themselves—that if the woman were supplied the guardians could afterwards order the relatives to refund the cost. The relieving officer lives five miles away, only visiting the village once a week. I may say that I intend writing to the guardians about the matter, but I would like to have your opinion before so doing. I am, Sirs, yours faithfully,

Sept. 14th, 1895. C. S. K.

*** It is at the discretion of the overseer (unless he gets an order from a justice of the peace) whether he acts or not, as in the absence of the relieving officer he may be held accountable for relief wrongly ordered. In the case under consideration the relieving officer ought to have been communicated with and an order for a nurse given or sent to him by the medical officer. We should not recommend writing to the guardians about the conduct of the overseer.—ED. L.

OBSTETRIC ENGAGEMENTS.

*Vexed.*—Our correspondent may be misinformed. He should assume the integrity of the engagement till the confinement happens. After that, and in the absence of any formal intimation to the contrary, he would have a claim for his fee.

*Rheostat* might obtain the desired information from one of the following firms.—Miller and Woods, Gray's-inn-road; Coxeter, Grafton-street, Gower-street; Schall, Wigmore-street.

### THE "REUNION" OF MEDICINE.

*General Practitioner.*—Our correspondent finds in the discussion on the Reunion of Christendom a suggestion that there is also schism in medicine needing to be healed. We recognise his liberal sentiment and we share it. But there are some reunions that would be greater evils than disunion. This is certainly so in Christendom, and not less clearly so in medicine. The homœopaths isolate themselves by adopting an exclusive theory of medicine, which, after a hundred years and in the broadest age of medicine, is as far off recognition as it ever was. It is permissible for a medical man to read homœopathic literature and attend homœopathic congresses, or to do anything he pleases to arrive at a knowledge of the system.

*T. O. E.*—The kind brevity of our correspondent's communication does slightly interfere with its clearness at one or two points; but we venture to make the following general answer to his inquiries. It is very awkward and, indeed, scarcely permissible during a vacancy and with an election pending to require radical alterations in the rules of an institution. Notice of such requirement should be given in the interval of elections and when no personal questions can be involved. The committee were at fault in not answering promptly A's inquiry. Still, we think it would have been better for A to have allowed the election to take its course. C acted with indecision, but with obvious sincerity. We think this answer covers all the inquiries of our correspondent.

*Mr. P. E. Davies.*—THE LANCET, Sept. 7th, 1895, p. 605. Univ. Brussels.

### HUMANE BEARING-REIN.

*To the Editors of* THE LANCET.

SIRS,—As I have frequently noticed your expressions of opinion condemning the bearing-rein for horses, you will doubtless be glad to know that by a very simple modification of the old pattern perfect freedom of all neck movements of the horse has been obtained. This patent is one which has been used by me for some time, and consists partly of leather and partly of indiarubber, and gives sufficient support to keep the head up, at the same time allowing of all movements. For horses that cannot be driven without a bearing-rein this removes all objections. It can be obtained of the inventor, Mr. E. Pullen, Portland-road, Hove, Sussex. I am, Sirs, yours faithfully,

Sept. 18th, 1895. A HORSE'S FRIEND.

### MEDICAL TESTIMONIALS OF QUACK REMEDIES.

IT seems incredible that registered medical men should give testimonials in favour of the wares of bone-setters and other quacks. The following cutting from the *Grimsby News* would seem to prove the contrary, but we are sure that Dr. Albert E. Curtis will be able to promptly repudiate the use of his name:—

> "Notice.—J. Bromfield, bone-setter, 54, Lister-street, Hull. The only manufacturer of 'Death to Suffering.' What the medical profession says: 'I have great pleasure in testifying to efficacious effect of "Death to Suffering." I have used it in several cases of chronic rheumatism and sprained joints with very great success, and I have no doubt that in cases of struma and other allied diseases it would be most beneficial; also for cyclists and athletes who are suffering from sprains and stiff joints.'—Dr. Albert E. Curtis, M.B., C.M., 95½, Waverley-street, Hull, Nov. 4th, 1893."

*Horseflesh* asks: "Could any reader of THE LANCET recommend a book on the more common defects in horses? Not one to do away with the services of the veterinary surgeon, but to enable one to pick out a horse that would be worth going before a veterinary surgeon."

### PRACTICE IN SOUTH AFRICA.

*To the Editors of* THE LANCET.

SIRS,—If any reader of THE LANCET would give some particulars about South African practice, and also say if there be a medical journal published there, and its name, he would much oblige,

Yours faithfully,

Sept. 18th, 1895. SCOT.

### THE SURGICAL AID SOCIETY AND QUACK ADVERTISEMENTS.

A REMARKABLE advertisement is sent us from the advertising pages of the report of the Surgical Aid Society for 1894, setting forth the prodigious curative powers of "Odo-Magnetic Treatment," whatever that may be. Surely this is not a place for quack advertisements. We appeal to the Society and to its medical officers to refuse such means of adding to their funds.

*Ahroustam.*—If the person in question practises as an apothecary the Society of Apothecaries might prosecute, but if he does not assume any false title he is not committing any legal offence under the Medical Acts. He cannot, of course, if unqualified, recover for attendance.

### MEDICAL ADVERTISING IN WEST HAM.

THE following is sent us as a specimen (alleged to be distributed wholesale) of medical advertising in West Ham. We appeal to Mr. Bringloe to consider whether such advertisements are likely to advance the respect of the public for the profession.

> "Dispensary, Clifton House, 90, Church-street, West Ham. Hours: Morning, 9 to 12; Evening, 6 to 9; Sundays, 9 to 12. Advice and Medicine, 6*d*. Visit (including Medicine), 1*s*. Midwifery and Vaccination. Dr. Bringloe, L.F.P.S.G., L.M."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, Sept. 19th, 1895.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb. | Wet Bulb. | Solar Radia in Vacuo. | Maximum Temp. Shade. | Min. Temp | Rainfall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| Sept. 13 | 30·22 | N.W. | 57 | 53 | 101 | 65 | 51 | ... | Fine |
| " 14 | 30·26 | N.E. | 52 | 50 | 82 | 67 | 50 | ... | Foggy |
| " 15 | 30·29 | W. | 61 | 58 | 85 | 66 | 52 | ... | Bright |
| " 16 | 30·31 | S.W. | 53 | 52 | 98 | 72 | 50 | ... | Foggy |
| " 17 | 30·21 | W. | 54 | 53 | 103 | 73 | 52 | ... | Overcast |
| " 18 | 30·08 | S.W. | 56 | 54 | 113 | 76 | 54 | ... | Cloudy |
| " 19 | 30·11 | S.W. | 57 | 56 | 70 | 60 | 55 | ... | Raining |

# Medical Diary for the ensuing Week.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

**TUESDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

**WEDNESDAY.**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

**THURSDAY.**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.).

**FRIDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

**SATURDAY.**—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

**During the week marked copies of the following newspapers have been received:**—*Brighton Gazette, Halifax Guardian, Eastern Morning News, Dundee Courier, Midland Counties Express, Weekly Standard (Blackburn), Scotsman, Western Morning News, Kilburn Post, Bradford Observer, Walsall Advertiser, Northern Echo, Manchester Guardian, Irish Times, Bristol Mercury, City Press, Yorkshire Post, Brighton Herald, Leeds Mercury, Sanitary Record, The News, Liverpool Daily Post, Times of India, Builder, Pioneer Mail, Shipping Gazette, Architect, Galignani Messenger, Grimsby News, Bournemouth Visitors' Directory, Local Government Chronicle, Science Siftings, Mining Journal, Brixtonian, Reading Mercury, West Middlesex Standard, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Courrier de la Presse, Shrewsbury Chronicle, Hawick Express, Guy's Hospital Gazette, Local Government Journal, Surrey Advertiser, Montrose Review, Rochdale Observer, Rotherham Advertiser, Fife Herald, Craven Herald, South London Press, Swindon Advertiser, Le Temps, Somerset City Herald, Banffshire Advertiser, Grantham Journal, Citizen, Loughborough Examiner, Evening Telegraph (Dundee), &c., &c.*

## Communications, Letters &c. have been received from—

**A.**—Dr. J. Althaus, Bellagio, Lake Como; Dr. W. D. Arnison, Newcastle-on-Tyne; Dr. F. S. Arnold, Manchester; Mr. Ahronstamm, Lille, N.; All World Advertising Co., Belfast; A., Ilfracombe.

**B.**—Dr. S. A. Bontor, Great Berkhampsted; Mr. Brown, Leeds; Mr. W. H. Brown, Lond.; Mr. W. Bradfield, Lond.; Mr. T. H. Brocklehurst, Weymouth; Mr. F. Bauermeister, Glasgow; Mr. T. B. Browne, Lond.; Mr. G. H. Broadbent, Manchester; Messrs. Burgoyne, Burbidges, and Co., Lond.; Messrs. T. Bradford and Co., Salford; Messrs. C. Barry and Co., Lond.; Messrs. Battle and Co., Neuilly-sur-Seine; Messrs. Burroughs, Wellcome, and Co., Lond.; Barrauds Ltd., Lond.; Brighton, Hove, and Sussex Throat and Ear Hospital, Brighton, Secretary of; Binol, Southsea.; Bona Fide, Lond.

**C.**—Dr. W. C. Chaffey, Brighton; Dr. H. Canney, Lond.; Dr. W. Carter, Liverpool; Dr. Collier, Bulwell; Dr. G. Cressy, Croydon; Mr. J. J. Clarke, Lond.; Mr. H. Cayley, Southampton; Mr. F. H. P. Coote, Lond.

**D.**—Dr. W. Duncan, Jersey; Dr. D. R. Dobie, Berwickshire; Dr. Davies, Newton-le-Willows; Mr. H. N. Davies, Porth; Mr. De'Ath, Buckingham; Mr. P. E. Davies, Kidderminster; Messrs. Deane and Son, Batley; Derbyshire Royal Infirmary, Secretary of; Dispenser, Lond.

**E.**—Dr. E. T. Ensor, Lond.; Mr. G. Y. Eales, Torquay.

**F.**—Prof. E. Frankland, Birmingham; Mr. B. R. S. Frost, Merthyr; F. F., Lond.; Fellowships, Edinburgh.

**G.**—Dr. W. R. Gowers, Lond.; Prof. A. Gonbaroff, Dorpat, Russia; Mr. H. R. Greene, Woking; Mrs. S. Gamble, Fallowfield; Globe Advertising Co., Aston Clinton.

**H.**—Dr. G. E. Herman, Lond.; Dr. W. W. Hardwicke, Surrey; Mr. J. J. Harding, Ballincollig; Mr. A. C. Harris, Calne; Mr. J. B. Hardcastle, Wolverhampton; Mr. T. G. Horder, Cardiff; Mr. R. Howden, Newcastle-on-Tyne; Mr. P. G. Hayes, Dublin; Mr. J. Heywood, Manchester; Messrs. Haasenstein and Vogler, Geneva; H. W. J., Lond.

**I.**—Mr. W. Jago, Brighton; Jelloid, Lond.

**K.**—Mr. D. T. Key, Reading; Mr. W. Key, Glasgow.

**L.**—Dr. J. S. Leonhardt, Nebraska; Mr. A. Longman, Broad Chalk; Messrs. Longmans, Green, and Co., Lond.; Messrs. T. Lewin and Co., Lond.; Liquor Carnis Co., Aston Clinton; Locum, Lond.

**M.**—Dr. H. C. L. Morris, Bognor; Dr. G. Marr, Normanby; Dr. J. McNamara, Lond.; Dr. C. F. Moore, Dublin; Dr. J. B. Maurice, Marlborough; Mr. G. Macnamara, Glasgow; Mr. J. Milne, Lond.; Mr. H. L. Mills, Lond.; Mr. S. K. Mukerji, Orai, N.W.P., India; Mr. R. Martin, co. Down; Mr. H. B. MacLeod, Shrewsbury; Mr. W. B. MacArthur, Gorton; Messrs. McKenna and Co., Lond.; Medicus, Edinburgh.

**O.**—Mr. T. B. O'Connor, Lond.; Mr. H. Oppenheimer, Lond.; Mr. J. J. O'Callaghan, Dunmanway.

**P.**—Dr. A. G. Phear, Lond.; Dr. J. Phillips, Lond.; Mr. M. Pepper, Dover; Mr. Y. J. Pentland, Edinburgh; Mr. C. H. Powers, Gosforth; Mr. L. W. Powell, Bristol; Mr. E. J. Pryce, Keighley; Messrs. Pestonji, Perozshaw, and Co., Hyderabad; Pharmaceutical Society, Lond.; Patience, Margate; Proprietress, Aberdovey.

**R.**—Mr. Romeike, New York; Messrs. Reynolds and Branson, Leeds; Registered Nurses Society, Lond., Sec. of; Royal College of Physicians, Lond., Registrar of; Royal Alexandra Hospital for Sick Children, Brighton, Secretary of.

**S.**—Dr. F. A. Southam, Manchester; Dr. R. C. Shettle, Reading; Dr. J. F. J. Sykes, Lond.; Dr. J. R. Spence, Burntwood; Mr. J. Staines, Leeds; Mr. H. Simpson, Cheshire; Mr. J. D. Staple, Bristol; St. Mungo's College, Glasgow, Secretary of; Surgeon, Rottingdean.

**T.**—Dr. W. N. Thursfield, Shrewsbury; Dr. S. G. Toller, Lond.

**U.**—The Unicorn, Lond.

**W.**—Dr. T. N. Wilson, Leicester; Mr. J. Walsh, Cromer; Mr. J. A. H. White, Darlington; Wayland, Lond.

**Z.**—Z., Lond.

## Letters, each with enclosure, are also acknowledged from—

**A.**—Dr. G. N. Adams, Lond.; Dr. E. Allen, Hawes; *Aberdeen Free Press*, Manager of; Assistant, Lond.; Amos, Lond.; A., Ilfracombe; A. B. C., Lond.; Aleph, Lond.; Assistant, Portsmouth.

**B.**—Mr. W. E. Barton, Staunton-on-Wye; Mr. G. H. Broadbent, Settle; Mr. R. W. T. Brooks, Lond.; Mr. J. S. Beveridge, Milnathort; Mr. N. O. Beaumont, Southampton; Miss Bempfield, Bampton; Messrs. T. Bradford and Co, Salford; Beta, Lond.; B. M., Lond.

**C.**—Dr. Collier, Bulwell; Dr. T. C. Craig, Heaton; Dr. Cooper, Hythe; Mr. E. C. Cockell, West Hartlepool; Mr. D. Crichton, Walthamstow; Messrs. Condy and Mitchell, Lond.; C. H., Lond.; Crypto, Lond.; Class Rooms, Edinburgh.

**D.**—Dr. R. Drew, Altona; D. C., Lond.; D., Lond.; Domus, Lond.

**E.**—Eta, Lond.; Ergon, Lond.

**F.**—Dr. Forest, Chelmsford; Miss M. Farr, Redditch; F. F., Lond.

**G.**—Dr. J. W. Greenwood, Hanley; Mr. W. George, Prestonville; Mr. W. Gosse, Sittingbourne; Mr. W. H. Garner, Clonmel; Gamel, Lond.; Glaucus, Lond.; G. B. J., Lond.

**H.**—Mr. W. A. Hardiker, Brymbo; Harding, Whitlesea; H. W. J., Lond.; Haileybury, Lond.

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